

REVISION OF THE AUSTRALIAN HESPERIADÆ.

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[Read August 10, 1911.]

INTRODUCTION.

Since Mr. Meyrick and myself gave our Revision of this group (Trans. Roy. Soc., S.A., vol. xxvi., p. 38, *et seq.*) many new forms have been discovered and the synonymy of others further corrected, consequently no excuse is necessary for a further revision of this difficult yet fascinating group. In dealing with the present monograph I have not deviated perceptibly from the arrangement laid down in the former paper. The neural characters and antennal structure, together with the peculiarities of palpi, have been made use of where expedient. In recent years Scudder and Elwes have advanced their theory of classification by utilizing the genitalia as a means of discrimination—in fact, Elwes has considered this system of paramount importance in characterizing the different species. I am not averse to the utilization of these characters when of value or in doubtful species, but prefer keeping to our original arrangement.

When we become better acquainted with the earlier stages of the various species I hazard the opinion that the present arrangement will require considerable alteration, but as yet we are acquainted with so few that nothing satisfactory can be promulgated in this direction. What knowledge I possess in the matter indicates interesting results. The various pupæ known to me present generic peculiarities which promise to be of particular value in generic distinctions. Whether they can be used to advantage in future remains to be seen. At present I have an open mind on the question, which is better than formulating an hypothesis which would fashion matters to assimilate with preconceived ideas, as frequently the latter method promotes useless disputes over minor details and narrows the mind to indulge in acrimonious personalities which are devoid of value, excepting perhaps to make confusion confounded. For instance, one could form several new genera for the reception of species under *Hesperilla*, but the problem is too complex to be finally disposed of with the knowledge we at present possess of the various known species. I have erected new genera where I have considered it necessary and have submerged others when indicated.

Whether we have several small genera or one large section is purely a matter of individual opinion, and unless there is a distinctive generic peculiarity I prefer the larger genera, as fully three-fifths of the species enumerated in this paper are endemic. The most troublesome and least understood group are *Telicota* and the allied genera, and progress must necessarily be slow, as no satisfactory arrangement can be maintained until an exhaustive examination is accomplished by the accumulation and dissection of a large quantity of material from the Indo-Malayan region. The geographical range which I consider Australian is the continent proper and Tasmania. In the near future I intend to prepare a paper which will embrace structural characters, etc., coloured figures of larvæ, pupæ, and imagines, and will endeavour to place my New Guinea and material from the adjoining islands in the proposed work, in which I hope to receive the same generous assistance from my co-workers.

I have unsuccessfully endeavoured to locate many of the types. This applies more especially to those of Plötz, and have been reluctantly compelled to abandon the search. Many of Plötz's species are in the collection of the late Herr Erhardt at Munich.

Before concluding I would take this opportunity of heartily thanking Colonel Chas. Swinhoe, Messrs. J. A. South, H. J. Elwes, Bethune Baker, H. Druce, A. Bang-Haas, Herr Krepelin, G. A. Lyell, and many others for assistance, not forgetting Mr. G. A. Waterhouse, whose valued help has been of yeoman service to me in the elucidation of many knotty points.

1. *CASYAPA*, Kirby.

Casyapa, Kirby, Syn., Cat., Diur., Lep., p. 576, 1871. *Chatocneme*, Feld., Sitz., A. K. Wiss, Math. Cl., vol. xl., p. 460, 1860 (*nom. præocc.*). *Casyapa*, Watson, P.Z.S., p. 29, 1893; M. and L., T.R.S., S.A., vol. xxvi. p. 40.

Club of antennæ moderate, gradually thickened, tapering to a fine point, bent, not hooked. Forewings in male with costal fold; vein 5 equidistant from 4 and 6; 3 from well before end of cell; 2 three times as far from base of wing as from end of cell. Hindwings with termen evenly rounded; 5 obsolete; 3 from just before end of cell. Hind tibiæ densely fringed and with only terminal part of spurs.

Type *corvus*, Feld.

This genus differs from *phænicops*, Watson, by the presence of costal fold of ♂. The genus extends to the Indo-Malayan Archipelago.

1. *C. CARISTUS*, Hew.

Chaetnocneme caristus, Hew., Desc. Hesp., p. 21; *Casyapa critomedia*, M. and L. (*nec* Guer), T.R.S., p. 40.

The description given as above refers to this species and not to *Critomedia*, Quer. This latter species does not, so far as I am aware, occur in Australia. The two specimens of *caristus* in the Miskin collection (said to have been taken by the late Mr. Diggles at Kangaroo Point), the two ♂ specimens in my own collection from Cape York, and two in Mr. Bethune-Baker's collection (taken in New Guinea) are identical.

Type in Coll. Hewitson (British Museum).

2. *PHÆNICOPS*, Watson.

P.Z.S., p. 30, 1893; M. and L., T.R.S., p. 41.

Club of antennæ moderate, elongate, gradually thickened, pointed, bent, not abruptly angled. Palpi ascending, terminal joint very short, obtuse. Posterior tibiæ without middle spurs. Forewings in male without characters, 5 parallel to 4 and 6, slightly nearer to 6 at base. Hindwings with 5 obsolete.

Type *beata*, Hew.

An endemic genus, comprising the three largest and most beautiful species in the Australian group.

2. *P. BEATA*, Hew.

Netrocoryne beata, Hew., Desc. Hesp., p. 22, 1867. Ex. Butl., v. Hesp., figs. 2, 3, 1874; M. and L., T.R.S., p. 41.

Type in Coll. Hewitson (British Museum).

I have received several specimens from Mr. F. P. Dodd taken and bred at Kuranda, Queensland, in May, September, October, and November. It also occurs from Brisbane to Cooktown, and at Richmond River (Waterhouse) and at Mount Kembla (A. G. Hamilton).

P. DENITZA, Hew.

Netrocoryne denitza, Hew., Desc. Hesp., p. 22, 1867; ex. Butl., v. Hesp., fig. 4, 1874; Stand., ex. Schmett, pl. c., 1888; *Phænicops denitza*, M. and L., T.R.S., p. 42.

Type in Coll. Hewitson (British Museum).

Brisbane to Cooktown, Queensland, and Port Darwin; December to March.

3. *P. PORPHYROPIS*, M. and L.

T.R.S., p. 43.

Types in Coll. Lower.

I have received several fine specimens of both sexes of this species from Mr. F. P. Dodd taken at Kuranda, Queens-

land, in October and February. The ♀ does not differ from the ♂ in markings; the ♂ appears to have an indistinct costal fold. In some specimens it may appear more perfectly developed. Should such prove to be the case, the species will be required to be placed in *casyapa*. The present species is very similar to the New Guinea species, *Kallima*, Swinh. (A.M.N.H. (7), xx., p. 430, 1907, and T.E.S., p. 3, pl. i., fig. 1, 1908), but differs by the presence of the yellow patch on termen of hindwings. The type of *porphyropis* came from Johnstone River, North Queensland.

3. NETRO CORYNE, Feld.

Reis., Nov., Lep. iii., p. 507, 1867; M. and L., T.R.S., p. 43.

Type *repanda*, Feld.

Club of antennæ elongate, pointed, bent. Palpi porrected, terminal joint rather short, obtuse. Posterior tibiæ with all spurs. Forewings in ♂ without stigma or costal fold; 5 parallel to 4 and 6. Slightly nearer 6 at base. Hindwings with 5 obsolete. Confined to the Australian region.

4. N. REPANDA, Feld.

Reis., Nov., Lep. iii., p. 507, pl. lxx., fig. 10, 1867; Math. T.E.S., 1888, p. 181, pl. vi., fig. 5; M. and L., T.R.S., p. 43. *Gonilota vulpecula*, Prittw., S.E.Z., p. 187, pl. iii., figs. 2ab, 1868.

Type in Coll. Felder.

Sydney to Cooktown. Mr. Dodd has sent several specimens bred at Kuranda, North Queensland; between November and March.

The larvæ feed on *Callicoma serratifolia*, *Elæocarpus cyanea*, and *E. reticulatus*.

4. TAGIADES, Hüb.

Verz., Z., p. 108, 1816; M. and L., T.R.S., p. 45. *Pterygospidea*, Wallgr., Rhop., Caffr., p. 53, 1857.

Club of antennæ slender, gradual, elongate, bent, apiculus rather long, pointed. Palpi porrected, terminal joint short, obtuse. Posterior tibiæ with all spurs. Forewings in male without characters; 5 parallel to 4 and 6, slightly nearer to 6 at base. Hindwings with 5 rudimentary, very faint.

Type *japetus*, Cr. (*Tagiades*); type *flesus*, Fabr. (*Pterygospidea*).

Chiefly confined to the Indo-Malayan and Asiatic regions.

Note.—Since writing the above I submitted authentic specimens of *Tagiades gamelia*, Misk., to Colonel Swinhoe, who returned them as *louisa*, Swinh. The same specimen was

afterwards submitted to Mr. Herbert Druce, who compared it with specimens of *Janetta*, Butl., in the Godman collection (British Museum), and he states that they are undoubtedly one and the same species. The synonymy will therefore be:—

T. JANETTA, Butl.

T.E.S. Lond., p. 519, 1870; *T. gamelia*, Misk., P.R.S. Qld., 1889, p. 146; *T. australensis*, Mab., C.R. Ent., Belg., xxxv., p. 72; *T. louisa*, Swinh., Ann. Mag. Nat. His. (7), xx., p. 432, 1907.

108. *Padrasna suborbicularis*, Mab.

109. *Ocybadistes suffusus*, Mab.

These two new species were recently described in Wymarnis Gen. Insect. I am not acquainted with either. The locality given is Australia.

The *Tagiades* are sombre-coloured insects showing slight geographical variations; the Australian forms and those of the adjoining islands are closely allied and probably derived from *japetus*, Cr. They are, however, separated from that group by the snow-white hindwings, of which I consider *atticus*, Fabr., the earliest form. As it is highly probable that *janetta*, Butl., will be taken on the mainland and may ultimately prove to be identical with *gamelia*, Misk., I append both of the original descriptions.

5. T. JANETTA, Butl.

T.E.S., Lond., p. 519, 1870; M. and L., T.R.S., p. 45.

Front wings dark-brown; a streak at end of cell and another on the disc, grey scales, four central spots, two within the cell and two between the median branches, and five points near the apex in a recurved series, white hyaline; hindwings, the basal area, and apex dark-brown, two large black spots placed obliquely within the apical band; body brown. Frontwings below nearly as above, the grey discal streak broader and well defined, becoming white near anal angle; hindwings white, costa and apex dark-brown; subapical spots as above; a black triangular spot at end of median branch and a short black line at the end of second; white; body, greyish in front, white behind.

Expanse of wings, 2 in.

Hab.—Aru Islands.

Coll. Druce. Belongs to *Japetus* group (Butler, T.E.S., Lond., p. 519, 1870).

T. gamelia, Misk., P.R.S., Qld., 1889, p. 146.

♂ ♀. $1\frac{8}{12}$ – $1\frac{10}{12}$ in. Upper side pale-brown with 9 pale colourless transparent spots, 2 within and at end of cell, 2.

others below and slightly beyond these, and a series of 5 very small ones forming a bent row a short distance from and parallel with apex. Hindwings with the basal and apical area pale-brown, rest of wing pure white, with two quadrate black patches near apex, upper one being the least. Under-side of forewings as above with a whitish patch near hinder angle. Hindwings all white with apical angle broadly towards base dark-brown; 2 brown patches near apex, of which the upper is the largest; a short line of brown close to outer margin, not reaching anal angle or extending to termination of median, base of wing with a bluish tinge. Thorax and abdomen above pale-brown, beneath light-grey.

Cape York, Queensland. Allied to *Japetus*, Cr., which it resembles somewhat on under-side. The sexes do not differ.

Butler does not give the colour of hindwings above, nor does he state the sex (it is probably a female). In some specimens the two cellular marks are separate above, but joined on under-side by a fleck of whitish; this peculiarity occurs irrespective of sex. Mr. Waterhouse has sent me specimens of *gamelia* in which the ♂ measures but 45 mm. These were taken on Prince of Wales Island during June; the mainland specimens are slightly larger, ranging up to 50 mm.

Cape York, Queensland; also from Prince of Wales Island.

6. T. LOUISA, Swinh.

Ann. Mag., N.H. (7), xx., p. 432, 1907; T.E.S., Lond., p. 6, fig. 5, pl. i. (1908).

Types in British Museum.

♀. 2 in. Exp. Blackish-brown, palpi white beneath, frons with a white spot on each side; forewings with two large hyaline spots at end of cell, one outside its lower angle and another close beneath it, all more or less triangular, a subapical row of six small spots in the usual recurved line; hindwings with about one-half the lower portion white, the white running up the abdominal margin to the base; two very large black spots in the middle of the disc, touching the inner-side of the outer curve of the brown portion of the wing; no marginal marks or spots; under-side with two additional hyaline spots on the forewing near the hinder angle; hindwings with a somewhat narrow black costal border; the two discal spots much smaller and one minute black mark on the outer border below the middle. Legs and body white. (Swinhoe, A.M.N.H. (7), xx., p. 432, 1907.)

Rossel Island; also from Cape York.

As will be seen by the above, *louisa* only differs from *gamelia* by having 6 instead of 5 subapical spots. I very much

doubt if the species can stand as distinct, as I possess a specimen of *gamelia* with an additional subapical spot, and although the insect is smaller, it could be considered either species. Probably a longer series will connect the forms as being one and the same.

7. *T. GAMELIA*, Misk.

P.R.S., Qld., 1889, p. 146. *T. Australensis*, Mab., C.R., Ent. Belg., xxxv., p. 72. *T. janetta*, M. and L. (*nec* Butl.), T.R.S., p. 45.

Type *gamelia*, in Queensland Museum; type *Australensis*, in (?) Coll. Staudinger.

We formerly called this species *janetta*, Butl., and although the descriptions are similar it appears that *janetta* differs from *gamelia* by the hindwings. Mabilie's description of *Australensis* certainly indicates *gamelia*.

Cape York, Queensland, and Prince of Wales Island, in June.

5. *MESODINA*, Meyr.

Ent. Mon., Mag., xxxvii., p. 168, 1901; M. and L., T.R.S., p. 46.

Club of antennæ elongate, pointed, bent, sub-porrect, apiculus very short. Posterior tibiæ without middle spurs. Forewings in male without stigma; 5 parallel to 4 and 6, slightly nearer 6 at base. Hindwings, 5 obsolete.

Type *æluropis*, Meyr.

This genus differs from *Hesperilla* only by the absence of stigma of forewing and absence of middle spurs of posterior tibiæ, which latter character also separates it from *Trapezites*, Hüb.

8. *M. ÆLUROPIS*, Meyr.

Ent. Mon., Mag., xxxviii., p. 168, 1901; M. and L., T.R.S., p. 46.

In the former Revision the reference was inadvertently given as an M.S.S. name, but was described as above.

Mr. Waterhouse informs me that this is a mountain species, and so far has been bred only in October to December, and again early in January.

Type in Coll. Meyrick.

9. *M. HALYZIA*, Hew.

Hesperilla halyzia, Hew., Desc. Hesp., p. 38, 1868; ex. Butt., v., figs. 4-6, 1874; Vict., Butt., ii., p. 125, 1894; M. and L. T.R.S., p. 47

Mr. Jarvis, the Entomologist to the Government Museum at Brisbane, informs me that he took this species on

Moreton Island, Queensland, in October. This is a new locality, and extends the range of this species considerably. Mr. Miskin, in his catalogue, gives Mackay and Bowen as localities, but as pointed out previously the insect referred to was *tyrrhus*, Mab. (*Bathrophora*, M. and L.).

Sydney, New South Wales, October to April.

Type in Coll. Hewitson (British Museum).

10. *M. HALYZIA*, Hew., *var. CYANOPHRACTA*, *nov. var.*

♂ ♀, 28-36 mm. Head, thorax, palpi, and abdomen dark-fuscous, mixed with golden-ochreous hairs on thorax and abdomen: thorax and abdomen beneath mixed with bluish-white. Legs bluish-white. Antennæ fuscous, annulated with white, apiculus reddish. Forewings elongate, triangular; costa somewhat sinuate in middle, termen oblique, in ♀ more strongly bowed; dark ochreous-fuscous; markings ochreous-whitish; a large, somewhat quadrate spot in end of cell, excised internally, outer edge straight; a cartridge-shaped spot beneath and beyond, beneath which is another similar spot, separated by vein from former spot; an oblique transverse row of 3 subapical spots *present in both sexes*; cilia fuscous, basal half darker, somewhat barred. Hindwings with termen rounded, somewhat prominent in ♂ above middle; colour and cilia as in forewings. Forewings below blackish-fuscous, markings of upper side reproduced, upper half of termen and apical area bluish-white, some orange scales in basal half of cell. Hindwings bluish-grey; a faintly produced curved series of postmedian fuscous rings, absent in some specimens; cilia of all wings bluish-grey, that of forewings being more or less barred with fuscous.

Whether this insect can be raised to the rank of a species or simply remain as a variety of *halyzia* remains to be seen. I have 2 ♂ and 3 ♀ specimens, and have seen others, and the 3 subapical spots on forewings and peculiar bluish-whitish colouring of under-side appears on the whole of the specimens.

In true *halyzia* the subapical spots of ♂ *are very rarely present*, although I have a single ♂ specimen, probably taken at Sydney, in which the 3 spots are feebly developed. I have not seen Victorian specimens of *halyzia*, but Mr. Waterhouse gives that locality.

When the life history of *cyanophracta* is elucidated it will probably be found necessary to further consider the question. The five specimens under review were all taken at Perth, Western Australia, in November.

Types in Coll. Lower.

6. MOTASINGHA, Watson.

P.Z.S., p. 73, 1893.

Club of antennæ robust, bent, apiculus blunt. Palpi obliquely ascending, subporrect terminal joint short, subconical. Posterior tibiæ with all spurs. Forewings in male with stigma; 5 parallel to 4 and 6, slightly nearer 6 at base. Hindwings, 5 obsolete.

Type *dirphia*, Hew.

This genus differs from *Hesperilla* by the shape of club of antennæ and from *Mesodina* by the presence of discal stigma of ♂ and presence of all spurs on posterior tibiæ.

11. M. DIRPHIA, Hew.

Desc. Hesp., p. 38, 1868; ex. Butt., v., figs. 1-3, 1874; M. and L., T.R.S., p. 60. *H. trimaculata*, Tepp., l.c., 1881, p. 32, pl. ii., fig. 1. *H. quadrimaculata*, ib., l.c., pl. ii., fig. 2. *Motasingha dirphia*, Watson, P.Z.S., 1893, p. 73.

Western Australia, South Australia, Victoria, and New South Wales. Thirty-three specimens; November to March. I think the former locality quoted, i.e., Cape York, is erroneous; at all events, it requires verification. The antennæ of this species has the apiculus very obtuse.

Type *dirphia*, in Coll. Hewitson (British Museum); types *trimaculata* and *quadrimaculata*, in Coll. Adelaide Museum.

7. HESPERILLA, Hew.

Desc. Hesp., p. 37, 1868. *Telesto* (nom. præocc.), Bdv., Voy., "Astrolabe," Lep., p. 164, 1832; Plötz, Stett., Ent., Zeit., 1884, p. 376; M. and L., T.R.S., p. 48. *Oxytoxia*, Mab., Wyt. Gen. Ins.

Club of antennæ elongate, more or less bent, apiculus acute, moderate. Palpi obliquely ascending or subporrect, terminal joint short, rarely moderately long, subconical. Posterior tibiæ with all spurs. Forewings in male with stigma; 5 parallel to 4 and 6, slightly nearer 6 at base. Hindwings, with 5 obsolete.

Type *ornata*, Leach; *Hesperilla*, Hew.; type *perroni*, Latr.; *Telesto*, Bdv.; type *Doubledayi*, Feld.; *Oxytoxia*, Mab.

We formerly placed all the following species in *Telesto*, Bdv., but as this name has been used in *Tubularina*, in 1812, and again in *Crustacea*, in 1814, I am adopting Hewitson's name in preference to Boisduval's. With the exception of *perornata*, Kirby, and *munionga*, Oll., the genus is immediately separated from *Mesodina* and *Trapezites* by the absence of stigma in male. I have merged *Oxytoxia*, Mab., into *Hesperilla*, as to all intents and purposes it is structurally identical with that genus. A somewhat discordant character in

the genus *Hesperilla* is the slight structural differences in the antennæ and palpi, but at present I see no reason for dividing the genus any further than I have done. When we become better acquainted with the earlier stages of the different species, it may be advisable to erect new genera where expedient, but as they form a tolerably compact group, and are (with one or two exceptions) peculiar to the Australian region, I prefer to retain them under the one genus.

Watson distinguishes *Hesperilla* from *Telesto* by the latter having "club arcuate without terminal crook," whereas in the latter genus he considers the club "usually bent to less than a right angle." *Perornata* and *munionga* will probably require a new genus to receive them, as in characters they appear to be intermediate between *Hesperilla* and *Trapezites*, having the facies of the former and characters (in a degree) of the latter. In this and the following genus I have adopted a somewhat different arrangement from that in our previous paper, as it appears to be more in keeping with the proper sequence of the various species.

Mabille's genus *Oxytoxia* was erected on the strength of the stigma of male being oblique instead of erect, a rather feeble effort and quite unnecessary. The suggestion to form a new genus for *Doubledayi*, *flammeata*, and a few others came from Watson (P.Z.S., 1893, p. 74). By some mischance Mabille has made *flammeata* a synonym of *Doubledayi*, but the stigma of *flammeata* is certainly widely different from the others in places in his genus, i.e., *Doubledayi*, *parvulus*, *compacta*, *argento ornatus*, and (?) *croites*. The last-named two are referable to *Anisynta*.

12. H. CYCLOSPILA, M. and L.

Telesto cyclopila, M. and L., T.R.S., p. 63.

Port Lincoln, South Australia; Melbourne, Victoria; in November.

Types in Coll. Lower.

13. H. CHRYSOTRICA, M. and L.

Telesto chrysotricha, M. and L., T.R.S., p. 59.

Since the former Revision appeared I have received the ♀ taken at Rottnest Island, Western Australia. I append description of same.

♀, 42 mm. Head, palpi, antennæ, thorax, legs, and abdomen ochreous-fuscous; head, thorax, and abdomen clothed with yellowish hairs. Forewings elongate, triangular, termen slightly bowed, oblique; dark fuscous, silvery-whitish markings; a large, somewhat quadrate spot in end of cell, broadest above, slightly yellowish tinged, in end of cell; a

cartridge-shaped spot at base of veins 3 and 4, and a moderately large quadrate one immediately below; an oblique row of 3 subapical spots; a semi-ovoid spot lying on vein 1, at $\frac{2}{3}$ from base; cilia dark-fuscous. Hindwings with termen rounded, colour and cilia as in forewings; a rather large median patch of orange scales, divided into 3 unequal portions by veins, basal hairs orange; under-side of forewings reddish ochreous; markings of upper-side reproduced; basal $\frac{2}{3}$ of cell clothed with short orange hairs; dorsal edge pale-yellow, more broadly at anal angle. Hindwings reddish; marking dull silvery-white, edged with fuscous; a roundish spot in posterior end of cell; a similar spot at $\frac{2}{3}$ from base, between veins 6 and 7, and 2 similar, between veins 2 and 4; indications of similar spots adjoining.

Types in Coll. Lower.

Albany and Rottnest Island, Western Australia; in November. Mr. Meyrick has it from Northampton, Western Australia, and I possess what is probably a worn ♀ of this species from Goolwa, South Australia, taken in March.

14. H. DONNYSA, Hew.

Desc. Hesp., p. 39, 1868; ex. Butl., v., fig. 7, 1874; Victorian Butterflies, ii., p. 122, 1894. *Telesto donnysa*, M. and L., T.R.S., p. 64. *Hesperilla Rietmanni*, Semp., Mus. God., xiv., p. 187, 1878.

Watson and Swinhoe suggest forming a new genus to receive this species. I have placed *Rietmanni*, Semp., as a synonym of this species, but am not perfectly satisfied as to its being identical. Semper's description applies fairly well to *donnysa*, excepting the size and the yellow *longitudinal* streak (which may probably be intended for the scales along the dorsum). Judging by the figure I have of *croites*, Hew., that species is *very* similar to the ♀ *chaostola*, Meyr., but the ♂ of *chaostola* can hardly be considered to approach ♂ *picta*, Leach, with which *Rietmanni* is compared by Semper. *Donnysa* is the only *Hesperilla* that I am acquainted with which shows the 6 white spots on border, and I know of no other Sydney species which approaches Semper's description better than *donnysa*, consequently I treat it as a synonym of that species. I have made diligent inquiries, but have been unable to trace Semper's types. I append Semper's original description:—

"HESPERILLA RIETMANNI, Semper, *nov. spec.* Erhalten von Sydney, im Februar, gefangen Flugellänge: ♂, 12 mm.; ♀, 13 mm. Das ♂ ähnelt oberseits auf den Vorderflügeln der vorigen Art, nur hat der noch senkrechter auf den Innenrand des Flügels stehende Wulst einen gelben Längs-

strich. Die Hinterflügel sind einfarbig dunkelbraun mit einem gelblichen Schimmer auf dem Discus. Auf der Unterseite ist die Wurzelhälfte der Vorderflügel gelbbraun, der Innenrand grau und der grössere Theil des Aussenrandes dunkelbraun mit violet angeflogener Flugelspitze. Die Hinterflügel sind violetbraun mit hellerer undeutlicher Mittelbinde.

“Das ♀ sieht oberseits wie *Cycl. croites*, Hew. (ex. Butl., v. *Cycl. and Hesp.*, fig. 14) aus, nur fehlt der helle Wurzelfleck auf den Vorderflügeln; und der gelbe Mittelfleck auf den Hinterflügeln ist kleiner. Auf der Unterseite ist die Zeichnung wie beim ♂, nur etwas heller und im Ganzen scharfer ausgeprägt; so besonders die hellere Mittelbinde auf den Hinterflügeln, welche wurzelwärts mit einem und saumwärts mit einer Reihe von sechs kleinen weissen Punkten begrenzt ist.” The “preceding species” which Semper compares *Rietmanni* with is *picta*, Leach.

I have recently seen specimens of *donnysa* taken at Mount Wellington, Tasmania, in which the markings of upper-side of wings are considerably enlarged and the colouring much brighter; the median patch of hindwing above deep-orange, and the spots of under-side are larger and distinctly white-centred. It may be advisable to give this a varietal name, but until more material is available I will consider it a well-marked form.

Victoria, Tasmania, South Australia (Blackwood and Yatala), Sydney, etc., New South Wales; from November to January.

15. H. IDOTHEA, Misk.

♀, *Trapezites idothea*, Misk., P.R.S., Qld., 1889, p. 152; Vict., Butt. ii., p. 116, 1894; *Telesto idothea*, M. and L.; T.R.S., p. 68. ♂, *Telesto dispar*, Kirby, Ann. Mag., N.H., 1893, p. 436; Vict., Butt. ii., p. 117, 1894.

The sexes of this species are very dissimilar, but admit of no doubt of their being one and the same. My brother (Mr. Harold Lower) took several *male* specimens at Mount Lofty, South Australia, at about 7 a.m., without observing the ♀.

Tasmania, Victoria, Blue Mountains, New South Wales; Mount Lofty, South Australia; in November and December.

Type ♀ in Coll. Miskin (Brisbane Museum); type ♂ in Coll. British Museum.

16. H. FLAMMEATA, Butl.

♂, *Telesto flammeata*, Butl., Ann. Mag., N.H., 1882, p. 85; Vict., Butt. ii., p. 124, 1894; M. and L., T.R.S., p. 69. ♀, *Telesto eclipsis*, Butl., Ann. Mag., N.H., 1882, p. 86; *Hesperilla atromacula*, Misk., P.R.S., Qld., 1889, p. 148.

Healesville, Gisborne, etc., Victoria; Sydney, New South Wales; in January and February.

Types *flammeata* and *eclipsis*, in British Museum; type *atromacuta*, in Brisbane Museum.

17. H. TYMBOPHORA, M. and L.

♂, *Telesto tymbophora*, M. and L., T.R.S., p. 70. ♀, *l.c.*, 1908, p. 312.

Type ♀ in Coll. Waterhouse; type ♂ in Coll. Lower.

Mr. Waterhouse considered the ♀ to be *arsenia*, Plötz, but that species is identical with ♀ *Perroni*, Latr.

Mount Kembla, New South Wales; in December.

18. H. COMPACTA, Butl.

Ann. Mag., N.H., 1882, p. 87. *Telesto compacta*, M. and L. T.R.S., p. 77. *Hesperilla scepticalis*, Rosen., Ann. Mag., N.H., 1885, p. 379, pl. ii., fig. 2. ♂, *Hesperilla melissa*, Mab., Comp., Rend., Ent. Belg., vol. xxxv., p. 81, 1891. ♀, *Hesperilla atrax*, Mab., *l.c.*, 1891.

I sent ♂ and ♀ of this species to Mabille. He identified the ♂ as *Hesperilla melissa*, Mab., and the ♀ as *Telesto compacta*, Butl., consequently the question arises what species does his ♀ *melissa* represent? Of his *melissa* he says:—

“Noir; à reflet roux; ailes portant un trait presque en croissant dans la cellule, trois points à l’apex et une petite dans le 4^e intervalle, tous blancs et vitrés. Inférieures avec une rangée de 4 taches allongées, vitrées sur le milieu, la supérieure plus petite, et un point roux clair (deux chez la ♀) à la base de la cellule. Franges roux clair, dessous des ailes avec les taches du dessus, mais le fond est brun rougeâtre clair, excepté le milieu des supérieures qui est noirâtre, et l’intervalle I., qui est blanc roussâtre. Aux inférieures la bande du milieu à deux points roux cercles de noir qui lui font suite sur les intervalles 3 et 2; et un autre semblable sur l’intervalle 7. En outre il y a sur la base de l’aile une rangée de trois points blanc roussâtre, et un autre à la base de l’intervalle 8.

“Le Corps est de la couleur des ailes; en dessous les palpes et la poitrine sont blanc; 21 mm., ♂ et ♀, Sydney.”

The description of the male admits of no doubt, although no mention is made of the stigma, unless “un trait presque,” etc., refers to it; but I take that to refer to the elongate subrescentric mark in cell of forewing. I have a coloured drawing of the *type specimen* of *atrax*, and it is without doubt the ♀ of *compacta*, Butl.

Sydney, etc., New South Wales; Macedon, Gisborne, etc., Victoria; from February to April.

Types *compacta*, in British Museum; types *melissa* and *atraz*, in Coll. Berlin Museum (Staudinger's).

19. H. ANDERSONI, Kirby.

Telesto Andersoni, Kirby, A.M.N.H., p. 434, 1893; Vict., Butt., ii., p. 118, 1893; M. and L., T.R.S., p. 66.

Types in British Museum.

Dandenong Ranges and Poowong, Victoria; Mount Kembla, New South Wales; in November and January.

20. H. DOUBLEDAYI, Feld.

Telesto Doubledayi, Feld., Verh., Zool., Bot., Ges. xii., p. 491, 1862; Vict., Butt. ii., p. 126, 1894; M. and L., T.R.S., p. 72. *Hesperilla dirphia*, Herr.-Sch. (nec Hew.), S.E.Z., 1869, p. 79, pl. iii., fig. 10. *Telesto Leachi*, Feld., Verh., Zool., Bot., Ges. xii., p. 491, 1862. *Telesto extranea*, Plötz, S.E.Z., p. 383, 1884.

As will be seen an additional synonym is *extranea*, Plötz.

Brisbane to Cairns, Queensland; Como (Sydney), New South Wales; Healesville and Wandon, Victoria; from November to March.

21. H. LEUCOSTIGMA, M. and L.

Telesto leucostigma, M. and L., T.R.S., p. 73.

Types in Coll. Lower.

Sydney, New South Wales, to Cairns, Queensland.

22. H. LEUCOSTIGMA, M. and L., var. PARASEMA, Low.

T.R.S., S.A., p. 312, 1908.

Differs chiefly from typical *leucostigma*, M. and L., by the absence in both sexes of the sickle-shaped cellular spot, which is never more than faintly indicated. The 3 subapical spots are absent in both sexes, and the lower post-stigmal dot is sometimes absent.

Types in Coll. Lower.

Kuranda, Queensland. Several specimens sent me by Mr. Dodd; taken in November and December.

23. H. PARVULUS, Plötz.

Telesto parvulus, Plötz, S.E.Z., 1884, p. 379. *Hesperilla humilis*, Misk., P.R.S., Qld., 1889, p. 150. *Telesto ismene*, Newm., M.S.S., Vict., Butt., ii., p. 128, 1894; M. and L., T.R.S., p. 73.

We formerly called this *ismene*, Newm., but Colonel Swinhoe informs me that the name was never published. Mr. Kirby and Mr. Heron (of the British Museum) can find no record of it, and Mr. Meyrick can throw no light on the matter. Felder described an insect (Reis. Nov.

iii., p. 512, No. 894, figs. 4 and 5, t. 73, 1867) under the name of *Hesperia ismene* from Celebes, but I am not acquainted with it.

Sydney, etc., New South Wales; Brisbane to Mackay, Queensland; Healesville, Lake Tyers, Victoria; in November.

24. H. SEXGUTTATA, Herr.-Sch.

Telesto sexguttata, Herr.-Sch., S.E.Z., 1869, p. 80, pl. iii., fig. 16. ♀, M. and L., T.R.S., p. 74, Brisbane (?), Bowen, Rockhampton, Herberton, Queensland.

Brisbane (?), Bowen, Kuranda, Rockhampton, Herberton, Queensland.

25. H. MELANIA, Waterh.

Telesto melania, Waterh., Vict., Nat. 1903, p. 54.

♂ ♀, 30-36 mm. Head, palpi, antennæ, thorax, abdomen, and legs dark-fuscous; palpi, thorax, and abdomen beneath whitish; apiculus of antennæ dull-reddish internally. Forewings elongate, triangular, costa straight, termen oblique, hardly rounded; dark-reddish fuscous, without markings; stigma oblique, very narrow, entire, dull-whitish, edged internally with its own width of black, from just above dorsum to base of vein 4, where there appears sometimes a small white dot, generally absent, which in ♀ is slightly larger and with an additional smaller dot below, which is also sometimes absent; cilia whitish. Spotted with fuscous. Hindwings with termen rounded, without markings; colour and cilia as in forewings. Under-side of forewings dark-fuscous, dorsum much lighter, becoming whitish at and above anal angle; spots of upper-side when present reproduced. Hindwing light-brown, suffused with grey; generally a curved series of 7 whitish interneural spots at $\frac{2}{3}$ from base, sometimes absent; cilia of both sexes brownish-fuscous. Nearest *tyrrhus*, Mab., but immediately separable from that species by the form of the stigma, which in that species is very broad. In general appearance not unlike *Erynnis fuliginosa*, Misk., but apart from the different cilia, which in that species is a striking characteristic, it is at once recognized by the neuration of forewings.

Types in Coll. Waterhouse.

Kuranda (Cairns), Queensland. Several specimens; January to April.

26. H. TYRRHUS, Mab.

Toxidia tyrrhus, Mab., Comp. Rend. Soc., Ent. Belg., vol. xxxv., p. 80, 1891. *Telesto sarula*, Swinh. (nec Mab.), Ann. Mag., N.H. 7, vol. xvi., p. 614, 1905. *Telesto bathrophora*, M. and L., T.R.S., p. 82.

This insect has been subject to some unnecessary confusion. Mabille, who described a ♀ and considered it to be the ♂, formed the genus *Toxidia* to receive it, which is not warranted. Of the species he says:—

“♂, 25 mm. Ailes noires, côté des antérieures un peu rousse. Celles-ci offrent en outre trois petits points apicaux en ligne droite dont l'intermédiaire plus petit, en outre on en voit encore un dans le 4^e intervalle. Frange large, concolore et luisante. Inférieures d'un noir foncé. Dessous semblable; intervalle 1, aux premières et une partie du 2^e, blanchâtres. Disque des inférieures à reflet violâtre. Palpes et poitrine gris cendré, abdomen égalant les ailes inférieures.”

In 1905 Colonel Swinhoe identified it as *Hesperilla saxula*, Mab., and described the ♂ under the name of *saxula*, but which in reality refers to the ♂ *tyrrhus*, excepting that he mentions only 2 subapical spots (there are 3 in typical *tyrrhus*), and added as a footnote:—“Mabille's ♀ type came from Cooktown, and his description fits my examples very well, considering the usual sexual differences.” This identification is rather confusing, as the description of *saxula* on under-side of hindwings is nothing like *tyrrhus*, which is practically without markings, and cannot possibly be confused with it. Mabille says of under-side of hindwings of *saxula*:—

“Les inférieures sont noirâtres avec une bande basilaire de deux taches jaunâtre cerchées de brun foncé, et une médiane de taches semblables séparée en deux groupes, l'un de deux taches près de l'angle antérieur, et l'autre commençant au dessus de la cellule et s'arrêtant à l'espace abdominal.”

In 1904 Mabille, in his Monograph of the Hesperiadæ in Wytman's Genera Insectorum, fascd., p. 132, put his species *saxula* under Godman and Salvin's genus *Halotis*, with Costa Rica, Central America, as its habitat. *This is probably correct.* Colonel Swinhoe says (Ann. Mag., N.H. 7, xvi., p. 615, 1905):—“In the Biologia Insecta, Lep. Rhop., ii., p. 505, pl. xcv., figs. 42, 43, 44, ♂ (1900), a Hesperid from Costa Rica is described and figured as the type of the genus *Halotis*; but neither the description nor the figures represent the Queensland insect. One of the Biologia examples, it is said, is labelled as having been compared by Salvin with the type of *Hesperia saxula*, Mab., a description of which *could not be found*; this must refer to some Hesperid from Costa Rica, so named by Mabille, which never was described and published. It can have no reference to the Cooktown insect.”

As mentioned above, the insect has been described, and I have received a fine coloured drawing by R. Flanderky, per favour Trustees of Berlin Museum, which decides the question beyond any doubt, as the drawing delineates a species *totally* dissimilar to *tyrrhus*, and not near anything found in Australia so far as known to me. As the former description embraced two forms I will redescribe the species.

♂, 28 mm. Head, palpi, thorax, and abdomen blackish-fuscous, mixed with greenish-golden hairs, palpi and thorax beneath whitish. Antennæ fuscous, spotted beneath with whitish, apiculus whitish. Forewings elongate, triangular, costae gently arched, termen gently bowed, oblique; dark-fuscous, with a greenish-golden sheen; without markings or very rarely with 3 subapical dots; stigma entire, rather broad, whitish, sometimes appearing white, oblique, edged narrowly on either side with blackish from above vein 1 to posterior extremity of cell, anterior edge with a moderate projection in middle, posterior edge moderately straight; cilia fuscous-whitish. Hindwings with termen rounded; colour and cilia as in forewings; without markings; a few golden-ochreous hairs toward base. Under-side of both wings ochreous-fuscous, dorsum broadly dull-whitish; finely dusted with whitish, especially hindwings; markings of upper-side, except stigma, reproduced; hindwings with dull-purplish reflections and a curved postmedian series of dull-whitish spots from beneath costæ to vein 1 in middle, lying on somewhat darker ground colour; cilia as above.

♀, 30 mm. Head, etc., as in ♂. Forewings as in ♂, but termen more bowed; a white, somewhat quadrate spot between veins 4 and 5 at base, sometimes absent; a transverse row of 3 white subapical spots; cilia as in forewings. Hindwings as in ♂. Under-side of wings as in ♂, markings of upper-side of ♂ reproduced.

Type ♀, in Berlin Museum (Coll. Staudinger); type ♂, in Coll. Lower; types *Bathrophora*, in Coll. Lower.

This species is subject to slight variation, but not of sufficient importance to separate the forms. The *presence* of the subapical spots in the ♂ is comparatively rare, and the *absence* of same in ♀ is very rare; the interneural quadrate spot of ♀ is subject to variation in size, becoming almost obsolete in some specimens, but is generally indicated. I have now twenty-nine specimens taken at Mackay, Kuranda, and Cairns from December to March.

27. H. CRYPSIGRAMMA, M. and L.

Telesto crypsigramma, M. and L., T.R.S., p. 81.
Herberton, Queensland.

Type in Coll. Lower.

28. H. PERRONI, Latr.

Enc. Meth., ix., p. 763, 1823. *Telesto Perronii*, M. and L., T.R.S., p. 75. *Telesto Kochii*, Feld., Verh., Zool., Bot., Geis xii., p. 491, 1862. *Hesperilla doclea*, Hew. Desc., Hesp., p. 39, 1868. ♀, *Telesto arsenia*, Plötz, S.E.Z., xlv., 384, 1884.

As the now accepted rule is that proper names should be in the genitive and terminate in "i" and not "ii," I have adopted *Perroni* in preference to *Perronii*. *Telesto arsenia* is identical with this species; Plötz's coloured drawing, which is before me, depicting both the upper and under side, indicates the ♀ with certainty.

Types —?

Brisbane to Herberton, Queensland. Forty-nine specimens; between November and February.

29. H. MALINDEVA, n. sp.

♂, 32-35 mm. Head, palpi, thorax, and abdomen dark-fuscous; palpi, thorax, and abdomen beneath ochreous-white; thorax above clothed with short dull-golden hairs. Antennæ dark-fuscous, annulated with white. Legs ochreous-whitish, posterior pair mixed with reddish-ochreous. Forewings elongate, triangular; costa nearly straight, termen gently rounded, oblique; rather dark smoky-brown; markings pale-yellowish; a rather broad transverse spot in end of cell, sometimes much constricted on upper half, a moderate elongate quadrate spot lying on vein 3 at base, a shadowy outline of a larger quadrate spot below; and oblique transverse row of 3 small subapical spots between veins 6 and 9; stigma entire, rather narrow, thickest in middle, from base of vein 4 to vein 1 at about $\frac{2}{3}$ from base; cilia dark-fuscous, terminal half paler. Hindwings with termen rounded; colour and cilia as in forewings, without markings; basal $\frac{2}{3}$ of wing clothed with dull-orange hairs. Under-side of wings dull-ochreous, faintly reddish-tinged, more pronounced on hindwings; markings of upper side of forewings, except stigma, reproduced; lower half of forewings darker than rest of wing; quadrate spot below vein 3 tolerably well developed; dorsum whitish-ochreous throughout; a suffused quadrate patch, below the quadrate spot; hindwings with 2 small roundish fuscous spots between veins 2 and 4 at $\frac{2}{3}$ from base; cilia as above, becoming grey-whitish on tornus of hindwings.

♀, 42 mm. Head, etc., as in ♂. Wings as in ♂, but termen of forewings more rounded; spots larger, an additional moderately large quadrate spot lying between veins 2 and 3 at $\frac{2}{3}$ from base, immediately below postcellular spot; a roundish whitish spot lying on vein 1 at $\frac{2}{3}$ from base. Under-side as in ♂.

Allied to *Perroni*, Latr., but abundantly distinct by shape of stigma, cellular spot, and under-side of hindwings.

I have dedicated this species to my wife (Eva Linda May), whose keen interest in the *Hesperiadæ* is of valued assistance to me.

Type ♂, Coll. Lower; type ♀, in Coll. Waterhouse.

Herberton, Queensland. Two ♂ specimens and one ♀, the latter in Coll. G. A. Waterhouse; taken by Mr. Dodd in January.

30. *H. XIPHIPHORA*, n. sp.

♂, 28 mm. Head, palpi, antennæ, and thorax dark-fuscous; palpi and thorax beneath pale-yellow; antennæ beneath spotted with yellowish, apiculus red. Legs and abdomen yellowish-fuscous, abdominal segments yellow. Forewings rather short, costa straight, termen oblique, nearly straight; fuscous ochreous; basal half of wing clothed with short dense orange hairs; markings dull-whitish; a somewhat sickle-shaped elongate spot in posterior end of cell; a small quadrate spot at base of veins 3 and 4, another slightly larger immediately below; a transverse series of 3 subapical spots, median smallest; stigma black, very broad, erect, entire, from just below vein 1 at $\frac{2}{3}$ from base to base of veins 3 and 4; cilia fuscous, base darker, mixed with whitish or terminal half. Hindwings with termen rounded; colour and cilia as in forewings, base and dorsum clothed with rather long orange hairs; two moderate, well-marked, yellow-whitish ovoid spots, separated by intervening veins just beyond middle of wing at $\frac{2}{3}$ from base.

♀, 30 mm. Head, palpi, antennæ, thorax, abdomen, and legs as in ♂. Forewings with colour and markings as in ♂, but cellular spot irregularly 8-shaped and other spots similar but much enlarged, spot at base of veins 2 and 3 quadrate; a whitish quadrate spot lying on vein 1 in middle. Hindwings as in ♂, but lower spot much smaller and often obscure; cilia of both wings as in ♂.

Under-side of all wings of both sexes thickly clothed throughout with orange scales, excepting dorsum of forewings and a patch above anal angle; markings of upper-side, except stigma, reproduced, and more or less edged with fuscous; cilia more yellowish than above.

Types in Coll. Lower.

This insect is very closely allied to *croceus*, Misk., being intermediate between that species and the following. It differs from *croceus* primarily by the very broad stigma (of which I have not met with intermediate forms), the shorter and more abrupt wings and general contour. The female *croceus* has the spot which lies at the base of veins 2 and 3

cartridge-shaped, with its apex directed inwards, and its *outer* edge does not reach more than beyond the middle of the spot above; whereas in the present species it is quadrate and reaches to the extreme edge. These characters are constant enough to warrant the assumption that it is a good species and not a variety of *croceus* or *xanthomera*.

Port Darwin. Fourteen specimens; in February, March, and April. Cairns, Queensland. One specimen; in December (F. P. Dodd).

31. *H. CROCEUS*, Misk.

♂, *Hesperilla croceus*, Misk., P.R.S., Qld., 1889, p. 150. ♀, *l.c.* (*nec croceus*). ♀, *Hesperilla satulla*, Mab., Comp. Rend., Ent. Belg., vol. xxxv., p. 82, 1891. *Telesto croceus*, M. and L., T.R.S., p. 79.

I sent a ♀ specimen to Mabilie, who returned it as *H. satulla*, Mab. (?), at the same time stating that the type was now in Coll. Dr. Staudinger (since purchased by the Berlin Museum). Herr Flanderky has sent me an excellent coloured figure of the type *satulla*, which agrees exactly with ♀ *croceus*, Misk. *Croceus* is subject to some variation, especially in the hindwings of ♀, the upper-side of which sometimes has the two conspicuous median spots, and sometimes one only, and in rarer cases practically absent, yet, strange to say, the *two* are always present on the *under-side*, though sometimes obscurely delineated.

Type ♂ *croceus*, Misk., in Brisbane Museum; type ♀, in Coll. Lower; type *satulla*, Mab., in Coll. Staudinger (Berlin Museum).

Port Darwin; Brisbane, Cooktown to Cairns, Queensland; February, March, and April.

32. *H. SENTA*, Misk.

♀, *Hesperilla senta*, Misk., Ann. Qld. Mus. Supp., 1891. *Telesto senta*, M. and L., T.R.S., p. 78.

Having received better specimens from Mr. Dodd, taken at Kuranda, I find that the ♂ insect requires redescribing.

♂, 28 mm. Head, palpi, antennæ, and thorax dark-fuscous; palpi and thorax yellowish beneath; antennæ spotted beneath with whitish, apiculus reddish; abdomen dark-fuscous, beneath yellow; segmental margins yellowish. Legs fuscous, yellowish tinged. Forewings elongate, triangular; costa faintly sinuate in middle, termen hardly rounded, oblique; dark-golden fuscous, thickly clothed on basal half with short orange hairs; markings semi-transparent, pale-yellowish; an irregular quadrate spot in posterior end of cell, strongly indented anteriorly, lower edge somewhat elongate; an ovoid spot, sometimes obscure, imme-

diately below; stigma narrow, entire, slightly oblique, from immediately above dorsum to base of veins 4 and 5; a somewhat cartridge-shaped spot touching its apex; a small spot immediately below; an oblique transverse row of 3 subapical spots, median smallest; cilia pale-whitish yellow, distinctly barred with dark-fuscous. Hindwings with termen rounded; colour and cilia as in forewings; a moderate deep-yellow ovate spot at $\frac{2}{3}$ from base, between veins 6 and 7; a similar spot at $\frac{2}{3}$ from base between veins 3 and 4. Under side of forewings dark-fuscous; costal area and upper half of termen broadly yellow; markings of upper side, except stigma, reproduced in golden-ochreous. Hindwings wholly yellow except a broad cuneiform blackish patch along dorsum; markings pale-yellowish, edged with fuscous; an obscure spot at base of veins 7 and 8; a second larger, in end of cell; a third between veins 7 and 8 at $\frac{2}{3}$ from base; a fourth, largest, ovate just below; 2 very small dots just below, and 3 moderately large spots between last 2 and vein 1, the last 7 forming a curved series parallel to termen.

Type ♀, in Coll. Queensland Museum; type ♂, in Coll. Lower.

Cooktown, Kuranda, and Herberton, Queensland; November to February.

33. H. XANTHOMERA, M. and L.

Telesto xanthomera, M. and L., T.R.S., p. 80.

Types in Coll. Lower.

Brisbane and Cairns, Queensland.

The localities, Victoria and New South Wales, previously given are probably erroneous.

34. H. CHAOSTOLA, Meyr.

Telesto chaostola, Meyr, P.L.S., N.S.W., 1887, p. 830; M. and L., T.R.S., p. 65.

Type ♂, Coll. Meyrick; type ♀, in Coll. Lower.

Blackheath, New South Wales; Huonville, Tasmania, in November and December.

The upper-side of the ♀ of this species bears a rather striking appearance to *Trapezites croites*, Hew., but the under-side is quite different. This and the following species appear to be allied, and have the terminal joint of palpi very long compared with other species of the genus.

35. H. ATRALBA, Tepp.

T.R.S., S.A., iv., 1881, p. 33, pl. ii., fig. 5. *Telesto atralba*, M. and L., T.R.S., p. 71. *T. dactyliota*, Meyr., P.L.S., N.S.W., 1887, p. 831.

Type *atralba*, in Adelaide Museum; type *dactyliota*, in Coll. Meyrick.

Port Lincoln and Moonta, South Australia; Geraldton, Western Australia; in October and November.

36. H. DRACHMOPHORA, Meyr.

Telesto drachmophora, Meyr., Ent. Mon. Mag., p. 82, 1885; M. and L., T.R.S., p. 61.

Type in Coll. Meyrick.

This and the two following species have terminal joint of palpi long and somewhat slender.

Deloraine, Tasmania; Moonbar, New South Wales; in March.

37. H. DOMINULA, Plötz.

Telesto dominula, Plötz, S.E.Z., xlv., p. 379, 1884; M. and L., T.R.S., p. 61.

Type ———?

I much doubt if this species can remain as distinct from *drachmophora*, Meyr. I have a specimen from Newcastle, New South Wales, which agrees very well with Plötz's description and figure. It chiefly differs by the markings of under-side of hindwings being dull-whitish instead of being silvery-white, as in *drachmophora*, but as both species are scarce and material scanty I prefer to keep them separate for the present.

Tasmania; Newcastle, New South Wales.

38. H. MONTICOLÆ, Oll.

P.L.S., N.S.W., 1889, p. 624; M. and L., T.R.S., p. 62; Waterh., Vict., Nat., 1903, p. 52.

Having received more perfect specimens from Mr. Edmund Jarvis, I redescribe this species, the former description being faulty. ♂, 22-25 mm. Head, thorax, palpi, and abdomen dark-fuscous, beneath yellowish terminal joint palpi long. Antennæ fuscous, annulated with whitish-yellow. Legs yellowish. Forewings elongate, moderate, triangular, termen gently rounded oblique; dark-fuscous, basal half clothed with short orange hairs; a small somewhat quadrate orange spot in end of cell; a somewhat cuneiform orange spot at base of veins 3 and 4, its apex directed inwards; a small ovoid orange spot immediately below, sometimes absent; a transverse row of 3 pale-yellow subapical spots; stigma dull-black, more or less broken into spots, oblique, from vein 1 to base of orange cuneiform spot; cilia, dull-reddish orange, barred with blackish at extremities of veins. Hindwings with termen somewhat strongly bowed; colour and cilia as in forewings; basal area clothed with fine long orange hairs; an indistinct

orange spot at end of cell, sometimes very suffused, beyond which an orange suffusion; two small, well-marked elongate orange spots beyond extremity of cell, separated by vein; under-side of forewings with markings, except stigma, of upper-side reproduced, the 3 subapical spots pale-lemon, cellular spot edged on either side with black; costal and cellular area of wing deep-orange from base to subapical spots; an irregular lemon-coloured apical patch extending to middle of termen; rest of wing blackish; dorsum dusted with ochreous. Hindwings beneath ochreous-fuscos, with lemon-coloured markings; an irregular cuneiform spot lying at base of wing; an irregular fascia from beneath costa at $\frac{1}{3}$ to middle of dorsum, where it becomes confluent with a large spot on anal angle and a smaller one near base; the two spots of upper side connect the fascia beyond middle; between basal cuneiform spot and upper edge of fascia is a small dot; an irregular quadrate spot on termen in middle, nearly touching lower edge of fascia; two small dots above termen, between veins 2 and 4; cilia of both wings with a broad lemon-coloured basal line.

♀. 25 mm. Head, palpi, antennæ, and thorax as in ♂. Upper side of forewings somewhat lighter than ♂, and spots larger and the discal series consisting of four spots; first and second elongate, third smaller, lowest larger cuneiform; cilia yellowish, spotted with fuscous. Hindwings with colour and cilia as in forewing; a large cartridge-shaped yellow spot just beyond end of cell, below which are two smaller but similar spots, divided by intersecting vein. Under-side of both wings as in ♂, markings of upper-side darker, except subapical series of spots.

Type ♂, in Australian Museum; type ♀, in Coll. Lyell, Moonbar, near Mount Kosciusko, New South Wales, in March; near Walhalla, Victoria (E. Jarvis), in February.

39. *H. CRYPSARGYRA*, Meyr.

Telesto crypsargyra, Meyr., P.L.S., N.S.W., p. 829, 1887; M. and L., T.R.S., p. 58.

Type in Coll. Meyrick.

Blackheath and Katoomba, New South Wales; November to February.

40. *H. PICTA*, Leach.

Zool., Misc., i., p. 126, pl. lv., figs. 4-5, 1815; Math., T.E.S., 1888, p. 185, pl. vi., figs. 9-9a; Vict., Butt., ii., 1894, p. 121; M. and L., T.R.S., p. 57.

Types ——?

In the former Revision the references to the figures of *picta* and *ornata* were inadvertently given as the same.

Sydney and Bathurst, New South Wales; Victoria; from October to January.

Mr. R. Illidge has specimens taken at Brisbane.

41. *H. MASTERSI*, Waterh.

P.L.S., N.S.W., 1900, pl. i., figs. 5-8, p. 54; M. and L., T.R.S., p. 55.

Types in Coll. Waterhouse.

Blue Mountains, Illawarra, New South Wales; in January.

42. *H. ORNATA*, Leach.

Zool., Misc., i., p. 126, pl. lv., figs. 1-3, 1815; Math., T.E.S., 1888, p. 187; Aust., Butt., 1889, p. 41; *Telesto ornata*, M. and L., T.R.S., p. 53.

Type ——?

Wandin, Victoria; Sydney, New South Wales, to Cooktown, Queensland; from October to January.

43. *H. ORNATA*, Leach, *var. MONOTHERMA*, Low.

T.R.S., S.A., 1907, p. 169.

In the original description this name was misprinted *monotherm*. Some years ago, in looking through the *Hesperiadæ* in the Queensland Museum, I saw a ♀ variety of *ornata* in poor condition with all spots of upper-side of forewing (excepting the 3 subapical and a minute one below) absent. The under-side was as usual, but without the curious dark spot in the white patch of hindwings. This specimen is an intermediate link between *monotherma* and *ornata*. In the former all markings of upper side of forewings are obsolete.

Type in Coll. Lower.

Cooktown and Herberton, Queensland.

44. *H. PERORNATA*, Kirby.

Ann. Mag., N.H., 1893, p. 437. ♀, *Telesto perornata*, M. and L., T.R.S., p. 2.

This species and *munionga*, Oll., will probably require a new genus to receive them. The stages of the larvæ and pupæ are quite different from *ornata* and its allies. This species shows considerable resemblance to *ornata*, but is immediately separable by the absence of stigma of ♂. The club of antennæ is slightly different from *ornata*, being somewhat more robust and more evenly curved. Superficially it shows such similarity as to be almost confused with that species, especially the ♀, hence my reason for retaining it in *Hesperilla*. The absence of stigma of ♂ in this and the following I at present regard as specific only. This I consider the better plan than erecting

a new genus, which may ultimately prove to be superfluous.

The ♂ does not differ from the ♀ excepting in size (26-28 mm.).

Type ♀, in British Museum.

Victoria; Blue Mountains, New South Wales; in October and November.

45. H. MUNIONGA, Oll.

P.L.S., N.S.W., 1889, p. 623; *Telesto munionga*; M. and L., T.R.S., p. 56.

This species presents the same peculiarities as *perornata*. They are both mountain species.

The sexes do not differ.

Types in Coll. Australian Museum, Sydney.

Mount Kosciusko, New South Wales.

8. TRAPEZITES, Hb.

Verz. Bek. Schmett, p. 112, 1816; *Patlasingha*, Watson, P.Z.S., p. 74, 1893.

Club of antennæ elongate, more or less bent, apiculus pointed, long or moderately long. Palpi obliquely ascending or subporrect, terminal joint short, subconical. Posterior tibiæ with all spurs. Forewings in ♂ without stigma; vein 5 parallel to 4 and 6, slightly nearer 6 at base. Hindwings with vein 5 obsolete.

Type *symmokus*, Hb., *Trapezites*.

Type *phigalia*, Hew., *Patlasingha*.

Watson separated his genus *Patlasingha* from *Trapezites* on the length of the terminal joint of palpi and length of apiculus of antennæ. I have altered the generic characters of *Trapezites* so as to embrace both genera, as they are too intimately associated to warrant division.

46. T. HETEROMACULA, M. and L.

T.R.S., p. 84.

The ♀ of this species does not differ from male except that the two small spots on under-side of hindwing, near termen, are somewhat larger and less rounded.

Note.—In the original tabulation the name is misprinted *heliomacula*.

Type ♂, in Coll. Macleay Museum.

Cairns, Herberton, and Endeavour River, Queensland; in May.

47. T. PETALIA, Hew.

Hesperia petalia, Hew., Desc. Hesp., p. 32, n. 25, 1868; Herr.-Sch., S.E.Z., 1869, p. 80, pl. iii., fig. 11; M. and L., T.R.S., p. 85; *Telesto megalopis*, Meyr., P.L.S., N.S.W., 1887, p. 832.

Type *petalia*, in Coll. Hewitson (British Museum); type *megalopis*, in Coll. Meyrick.

Sydney to Mackay; from March to November.

48. T. LUTEA, Tepp.

Hesperilla lutea, Tepp., T.R.S., S.A., iv., p. 33, t. 2, fig. 6, 1887; *Trapezites petalia*, Misk. (nec Hew.), Ann. Qld. Mus., p. 79, 1891 (in part); *T. lutea*, M. and L., T.R.S., p. 90.

Type in Adelaide Museum.

This species has the apiculus of antennæ shorter than the other species of the genus.

Stonyfell and Port Lincoln, South Australia; Hobart, Tasmania; and New South Wales; in November.

49. T. IACCHUS, Fabr.

Papilio iacchus, Fabr., Ent. Syst., p. 533, 1775; Donovan, Ins. New Holl., pl. xxxi., fig. 1, 1805.

The description formerly given by us, *T. iacchus*, Fabr., refers to *eliæna*, Hew. The whole trouble arose thus: Herrich-Schäffer recognized that Hewitson's *eliæna* was allied to *iacchus*, but not knowing true *iacchus* says (S.E.Z., p. 80, n. 66, 1869):—"Ich bestimmte dies Thier vor Herrn Hewitson's Erklärung als *H. iacchus*, Don., Austral; es sind in diesem Bilde die Flecke der V fl nur gar zu licht und jene der U.S. der H fl zu gross weiss gekernt," indicating that he disagreed with Donovan's as representing *iacchus*. Plötz no doubt considered Herrich-Schäffer's figure of *eliæna* and Donovan's were not the same, and imagined that Herrich-Schäffer's incorrectly determined Hewitson's *eliæna*, and so considered the figure to represent *donnysa*, Hew., and placed *eliæna*, Hew., as a synonym of *iacchus*. The original Fabrician description reads:—"Papilio iacchus; alsi ecaudatis, flavo maculatis postis punctus sex niveis" (wings without tails, spotted with yellow and six snowy-white dots). The number of spots should be five, not six, although Donovan's figure shows seven, caused by the veins dividing two of the spots. Mr. R. E. Turner states that the type *iacchus* which is in the Banksian Collection has the spots somewhat more elongate than usual, and although neither *iacchus* nor *eliæna* can be said to possess white spots on forewings, those on *iacchus* are yellowish-white and those of *eliæna* golden-yellow. I am quite satisfied that the northern form, ranging from Brisbane to Cape York, is *iacchus*; and the southern form, ranging through New South Wales, Victoria, South Australia, and Tasmania, is *eliæna*, Hew. Professor Mabille, to whom specimens were submitted, returned them as *phigalia*, Hew.; certainly an error in identification.

♂ ♀, 34-40 mm. Head, palpi, antennæ, thorax, and abdomen dark-fuscous, palpi and thorax beneath whitish, antennæ spotted beneath with ochreous-whitish, apiculus reddish. Legs reddish-fuscous. Forewings elongate, triangular, moderate; costa nearly straight, termen gently rounded, oblique; rather light-golden fuscous, with yellowish-white markings; basal third of wing clothed with yellow hairs; a rather large quadrate spot in posterior end of cell, slightly indented anteriorly and posteriorly; a moderately large cartridge-shaped spot at base of veins 3 and 4, and a larger one, more quadrate, immediately below; a suffused roundish spot lying on vein 1 about middle; a transverse row of three cartridge-shaped subapical spots; a streak of yellow along dorsum to middle, and a similar streak along vein 1 to middle, meeting spot; cilia fuscous, yellowish-white round anal angle. Hindwings with termen rounded; colour as in forewings; base and dorsum clothed with long yellowish hairs; an orange median band divided into three parts by intersecting veins; upper part elongate-ovate, with a short projection toward termen; median very small; cuneiform; lower somewhat similar to last, but larger; lower edge mixed with orange hairs; cilia yellow, becoming fuscous at base. Under-side of forewings dull-reddish ochreous; markings of upper-side reproduced; basal half of costa and upper half of cell yellow; basal half of wing and lower half of termen dark-fuscous, inclining to black; cilia paler than above. Hindwings rather bright-reddish ochreous; markings distinct, snow-white, narrowly edged with fuscous; a spot in cell toward base; a second at $\frac{2}{3}$ from base between veins 6 and 7, and three others at $\frac{2}{3}$ from base in a curved series between veins 1 and 4; cilia pale-ochreous fuscous.

Brisbane to Cape York. Eleven specimens; from February to May.

50. *T. ELIENA*, Hew.

Desc. Hesp., p. 32, n. 24, 1868; Herr.-Sch., S.E.Z., n. 66, pl. iii., fig. 13, 1869; *iacchus*, Semp. (*nec* Fabr.), Mus. God. Lep., xiv., p. 49, 1878; *Telesto cæcilius*, Plötz, S.E.Z., p. 380, xlv., 1884; *eliena*, Misk. (in part), Ann. Qld. Mus., p. 78, 1891; *iacchus*, M. and L. (*nec* Fabr.), T.R.S., p. 87.

Note.—Miskin's *iacchus* is partly *symmomus*, Hb., and *maheta*, ♂, Hew. The true *iacchus* was apparently unknown to him.

♂ ♀, 34-38 mm. Head, palpi, thorax, and abdomen dark-fuscous, clothed with pale-greenish-yellow hairs, beneath pale-yellowish; antennæ fuscous, annulated with ochreous, posterior half beneath ochreous, terminal half of apiculus beneath reddish. Legs dull-orange. Forewings elongate, triangular, costa gently arched, termen bowed, oblique;

varying from golden-fuscous to dark-fuscous; costal and basal areas clothed with orange scales; markings golden-orange, placed as in *iacchus*; spot on vein 1 bright orange, and more or less anteriorly suffusedly mixed with golden hair scales and continued to base; a bright orange streak on dorsum from base to middle; cilia orange, basal half dark-fuscous. Hindwings dark-fuscous; basal and dorsal hairs long, orange; median band orange, shaped as in *iacchus*, but broader; cilia orange, with blackish bars at neural extremities. Under-side of both wings bright orange-fulvous, lower $\frac{2}{3}$ of forewings dark-fuscous, markings of upper-side reproduced, but paler; cilia as above. Hindwings with 5 spots placed as in *iacchus*, that in the cell being the largest, white, ringed with black; the 4 remaining spots are much smaller, and are sometimes wholly blackish without the white centres, all spots larger in ♀.

Type in Coll. Hewitson, British Museum.

Plötz places *eliena*, Herr.-Sch., as a synonym of *donnysa*, Hew. (S.E.Z., t. 3, f. 13, 1869), and *eliena*, Hew., as a synonym of *iacchus*, Fabr.

Macedon, Gisborne, etc., Victoria; Como, Sydney, etc., New South Wales; Brisbane to Mackay, Queensland; Deloraine, Tasmania; Mount Gambier, South Australia. Twenty-two specimens; October to January.

Plötz's locality for *cacilius*, i.e., India, is an error.

51. *T. ELIENA*, Hew., var. *MONOCYCLA*, nov. var.

T. iacchus, A. and S. (nec Fabr.), Vict., Butt., p. 115.

♂ ♀, 34-44 mm. Head, thorax, etc., as in *eliena*. Forewings somewhat more elongate than in *eliena*, markings placed as in *eliena*, but deeper coloured. Hindwings as in *eliena*, but median band deeper orange and hardly separated by veins. Under-side of both wings as in *eliena*, but all markings of hindwings absent except the large cellular spot. This is such a well-marked variety that it can be conveniently separated. It is at once recognized by the single cellular spot on hindwings beneath.

Mount Gambier, South Australia (November); Gisborne and Berwick, Victoria (December). Four specimens.

52. *T. SYMMOMUS*, Hb.

Zutr., ex. Schmett, figs. 225, 226, 1823; Math., T.E.S., 1888, p. 183; Staud., ex. Schmett, pl. c., 1888; Vict., Butt., pt. ii., p. 114, 1894; M. and L., T.R.S., p. 86; *Telesto praxedes*, M. and L. (nec Plötz), T.R.S., p. 86.

Type — ?

We formerly quoted *Telesto praxedes*, Plötz, as a synonym of this species, but are now satisfied that *praxedes* is identical

with ♂ *T. maheta*, an opinion also shared by Colonel Swinhoe.

Victoria, New South Wales, and Brisbane to Herberton, Queensland; from November to March.

53. *T. MAHETA*, Hew.

Hesperia maheta, Hew., Ann. Mag., N.H., 1877, p. 80. *Trapezites maheta*, M. and L., T.R.S., p. 89, Waterh., Vict., Nat., 1903, p. 54. *Telesto praxedes*, Plötz, S.E.Z., p. 378. ♂, *Trapezites iacchus*, Misk. (nec Hew.), Ann. Qld. Mus., p. 78, 1891.

Mr. Waterhouse makes *phlæa*, Plötz, a synonym of the ♀ of this species, but this conclusion is undoubtedly an error, that species being identical with *phigalia*, Hew. In our former description we mentioned that the under-side of hindwings has 7 silvery-white spots; this is the rarer form, the usual number being 4, the remaining number being, as a rule, inconspicuous.

Type in Coll. Hewitson, British Museum.

Como, etc., New South Wales; Brisbane to Cairns, Queensland. Nineteen specimens; December to April.

54. *T. MAHETA*, Hew., var. *PHIGALIOIDES*, Waterh.

Vict., Nat., 1903, p. 56.

This is a very curious and remarkable variety, agreeing essentially on upper side with typical *maheta*, with the exception of the third subapical spot of forewing being irregularly placed and the broader and deeper coloured fascia of hindwings. The under-side is greyish, the spots of upper-side reproduced, slightly larger, and the spots of hindwings as small brown rings *never centred with silver*.

Types in Coll. Lyell.

Gisborne, Toora, etc., Victoria.

55. *T. MAHETA*, Hew., var. *IACCHOIDES*, Waterh.

Vict., Nat., 1903, p. 56.

This chiefly differs from typical *maheta* by the salmon-coloured under side and silver spots of hindwing (using six in number) being of moderate size, that of the apex being of equal size to that of anal angle.

Type in Coll. Waterhouse.

Como and Blue Mountains, New South Wales.

56. *T. PHIGALIA*, Hew.

Hesperia phigalia, Hew., Desc. Hesp., p. 32, n. 23, 1868; Herr.-Sch., S.E.Z., t. 3, fig. 15, 1869. *Telesto phlæa*, Plötz, S.E.Z., xlv., p. 378, 1884. *Trapezites phillyra*, Misk., P.R.S., Qld., p. 153, 1889. *T. phigalia*, M. and L., T.R.S., p. 94.

Mr. Waterhouse (Vict. Nat., 1903, p. 55), when writing, considered that *phlaea* (Plötz) was not identical with the above species. Plötz's drawing admits of no doubt, an opinion in which Mr. Waterhouse acquiesces.

Type *phigalia*, in Coll. Hewitson (British Museum); type *phillyra*, in Coll. Queensland Museum.

South Australia, Victoria, and New South Wales; from September to March.

9. ANISYNTA, n.g.

Club of antennæ moderately robust, apiculus blunt. Palpi subporrect, hairy or densely hairy beneath; terminal joint, short or moderate, subconical, posterior tibiæ with all spurs. Forewings with costa moderately straight, slightly concave in *Tasmanicus* and *argenteo-ornatus*; ♂ without stigma; 5 parallel to 4 and 6, slightly nearer 6 at base. Hindwings with vein 5 obsolete.

I have formed this genus to receive those species with the blunt apiculus of antennæ; it bears the same relation to *Trapezites* as *Motasingha* does to *Hesperilla*.

Type *cynone*, Hew.

57. A. CROITES, Hew.

Cyclopides croites, Hew., ex. Butt., v., fig. 14, 1874. *Astictopterus croites*, Hew., Misk., Ann. Qld. Mus., p. 78, 1891. *Trapezites croites*, M. and L., T.R.S., p. 88.

Type in Coll. Hewitson (British Museum).

So far to my knowledge the type is unique. As previously mentioned, the drawing which I possess, taken from the type, bears a striking resemblance on the upper-side to the ♀ *Hesperilla chaostola*, Meyr.

Western Australia.

58. A. ARGENTEO-ORNATUS, Hew.

Cyclopides argenteo-ornatus, Hew., Desc. Hesp., p. 41, 1868; ex. Butt., v., figs. 18-19, 1874. *Trapezites argenteo-ornatus*, M. and L., T.R.S., p. 91.

Type in Coll. Hewitson (British Museum).

South-West Australia (Perth); in October and November.

59. A. TASMANICUS, Misk.

Hesperilla Tasmanicus, Misk., P.R.S., Qld., 1889, p. 149. *Telesto comma*, Kirby, Ann. Mag., N.H., 1893, p. 436. *Trapezites Tasmanicus*, M. and L., T.R.S., p. 96.

Type *Tasmanicus*, in Queensland Museum; type *comma*, in British Museum.

The costa of this species is faintly sinuate beyond middle. Tasmania and Victoria: November to January.

60. A. POLYSEMA, Low.

Hesperilla polysema, Low., T.R.S., p. 311, 1908.

The ♂ of this species is without a stigma, consequently I refer it to *Anisynta*. This sex differs very little from the ♀, excepting that it is slightly smaller (34 mm.), and the small additional fleck above vein 1 on under-side is also conspicuous on upper-side; there are very faint indications of two or three whitish flecks on upper side of hindwing (in one specimen tolerably distinct). The row of spots on under side of hindwings are somewhat smaller, and the fifth one, counting from the bottom, has a tendency to be geminate. In all probability these characteristics will be *en evidence* in better and fresher specimens of the ♀. The type from which the original was taken was somewhat imperfect. The species under review does not approach any other known to me, but appears nearest *Tasmanicus*, Misk.

Type ♀, in Coll. Lyell; type ♂, in Coll. Lower.

Port Darwin; and Chillagoe, North Queensland. Two specimens; in February (F. P. Dodd).

61. A. (?) ARGINA, Plötz.

The reference given to this species is S.E.Z., xlv., p. 227, n. 903 (1883). *Hesperia argeus*, Plötz (Weymer M.S.S.) is on that page, and the number is 704, and as the insects are so widely divergent the reference is probably wrong. I have no copy of S.E.Z. of that date, so am unable to state definitely. Mr. Waterhouse gives "Mittheilungen Verein für neu Vompommern und Rugen in Greifswald (Berlin), p. 22, 1884," as the reference. The description of *argina* is as follows:—"Fichlerkolbe (? Fühlerkolbe) am Ende stumpf abgerundet. Oberseite schwarzbraun. V fl nur mit den typischen weissen Flecken; der in der Mittel 3 ist gespalten, der in Z. 1 ist getheilt und grau; in Z. 5 ein Querstrich. H. fl mit 5 grauen Puncten im Bogen hinter der Mitte. Unterseite grau mit braunen Rippen. Vdfl mit den weissen Flecken wie oben, auf der Hinterhälfte braun. H. fl. mit 8 weissen Puncten in $\frac{3}{4}$ Kreis und einem in der Mitte."

Herr.-Sch., I.L. 13 mm., Brisbane.

It is referred to the genus *Syrichthus*, Bdv. The description, so far as it goes, agrees somewhat with *polysema*, Low., but the absence of the curved series of 5 grey dots on upper-side of hindwing is a deterrent character. One of my male specimens of *polysema* has a faint curved series of 5 dull whitish dots beyond middle on upper-side of hindwing.

The drawing of *argina* before me shows the 5 grey dots, also the divided grey dot in cell 1. And the under-side

of both wings has the spots situated similar to those in *polysema*, but the costal, apical, and terminal areas of forewings and nearly the whole of hindwings are suffused with *pale-lilac blue*, whereas in *polysema* the ground-colour is yellowish-fuscous, so that probably *argina* represents a species allied to *polysema*, but separable by the above-mentioned differences. The locality given is Brisbane, and the expanse (one wing only) is 15 mm. *Polysema* has so far been recorded only from Chillagoe district and Port Darwin.

62. A. CYNONE, Hew.

Cyclopides cynone, Hew., ex. Butt., v., fig. 17, 1874. *Pamphila gracilis*, Tepp., T.R.S., S.A., 1881, p. 34, pl. ii., fig. 7. *Trapezites gracilis*, M. and L., T.R.S., S.A., p. 93.

Type *cynone*, in Coll. Hewitson, British Museum; type *gracilis*, in Adelaide Museum.

Semaphore and Henley Beach, South Australia; Gunbower, Victoria; in June and December.

63. A. SPHENOSEMA, M. and L.

T.R.S., p. 92; *T. paraphaës*, *ib.*, l.c., p. 93.

Types in Coll. Lower.

Further investigation convinces me that *paraphaës* is only a variety of *sphenosema*.

Perth, Western Australia; in November.

10. EXOMETÆCA, Meyr.

P.L.S., N.S.W., p. 833, 1887; M. and L., T.R.S., p. 97.

Type *nycteris*, Meyr.

Club of antennæ elongate, pointed, bent. Palpi subporrect, terminal joint moderately long, pointed. Posterior tibiæ with all spurs. Forewings in ♂ without stigma; 5 parallel to 4 and 6, slightly nearer 6 at base. Hindwings with 5 *present*, somewhat nearer to 6 at base.

Contains only the single species.

64. E. NYCTERIS, Meyr.

P.L.S., N.S.W., ser. ii., p. 833, 1887; M. and L., T.R.S., p. 97.

Type in Coll. Meyrick.

Albany, Western Australia; in December.

11. TARACTROCERA, Butl.

Cat. Lep., Fabr., p. 279, 1869; Watson, P.Z.S., p. 93, 1893, pl. iii., fig. 20.

Type *mævius*, Fabr.

Antennæ short, club forming a flattened disk, conspicuously hollowed, tip abruptly pointed; palpi ascending, ter-

minal joint moderately long, slender, erect, pointed; posterior tibiae with all spurs. Forewings with vein 12 reaching costa well before end of cell; vein 5 close to bottom of cell; vein 3 well before end of cell, about twice as far from 2 as from 4; vein 2 slightly nearer to end of cell than base of wing. Hindwings with vein 7 very close to end of cell; 5 absent; 3 immediately before end of cell; vein 2 twice as far from base of wing as from end of cell. Forewing without stigma.

This genus ranges from India, through the Indo-Malayan Archipelago to Australia, and it is probable that other species will be discovered in the tropical parts of Australia. The antennal club is characteristic of this and the following genus.

65. *T. DOLON*, Plötz.

Apaustus dolon, Plötz, Stett, Ent. Zeit, xlv., p. 165.

♂ ♀, 20-22 mm. Head, palpi, antennae, thorax, and abdomen fuscous; palpi, thorax, and abdomen beneath whitish. Antennae annulated with white. Club somewhat flattened, distinctly hollowed, apiculus extremely short. Legs fuscous, posterior pair whitish. Forewings elongate, moderate, costa straight, termen somewhat bowed, oblique, some obscure raised scales on veins 1, 2, and 3 representing stigma, fuscous with yellowish-orange markings. An elongate spot, filling up whole of cell from base to posterior end of cell, with a slight fuscous suffusion toward base, more pronounced in ♂; extreme costal edge fuscous; an oblique transverse fascia, moderately narrow, composed of 8 more or less connected spots, from just beneath costa, at $\frac{4}{5}$ to vein 1 above anal angle; the two spots between veins 4 and 6 are *completely* separated from the remainder, and are very close to the termen; the three subcostal spots (representing the usual sub-apical series) *are not* placed obliquely, but directly transverse; a narrow streak between vein 1 and dorsum; cilia dark-fuscous, becoming whitish on terminal half and paler at anal angle. Hindwings with termen rounded; colour as in forewings; an orange-yellow spot in posterior extremity of cell; an orange-yellow rather narrow postmedian band of four spots separated only by intervening nervules, extending from vein 1 to 6; the two middle spots much smaller than others, somewhat cartridge-shaped; other two irregularly quadrate; generally an additional spot on vein 7; basal and dorsal hairs orange-yellow; cilia whitish, basal half fuscous, becoming yellowish round anal angle. Under-side of forewings dark-fuscous, markings of upper-side reproduced, basal half of cell fuscous, wing between vein 4, costa, and apex dusted with

yellowish, orange in ♀; cilia whitish-yellow, with a fuscous median line. Hindwings pale-yellowish, in ♀ orange or orange-yellow; markings of upper-side reproduced; an obscure fuscous streak above dorsum, becoming blackish and more clearly developed on termen, where it becomes patch-like; cilia as in forewings.

This species is very distinct from all others by the absence of any defined stigma; the raised scales on veins 1, 2, and 3 require close scrutiny to reveal them, and are apparently absent in some males, probably through denudation. Plötz's figure is a good one, and represents the species clearly. The species later on described as *hypomeloma* is somewhat like the wing pattern, especially beneath, but the blackish streak along the dorsum of *hypomeloma* is absent in *dolon*. Plötz's drawing does not show the peculiar antennæ of the genus, but I attach no importance to this omission, as the drawing otherwise agrees in detail. The additional spot on vein 7 of hindwings is rarely absent.

Type ——?

Mackay, Kuranda, and Cooktown, Queensland; also Port Darwin; in March and April. Fourteen specimens (R. E. Turner and F. P. Dodd).

12. BIBLA, Mab.

Wyst., Gen. Inst., xvii., 1904.

Type *Papyria*, Bdv.

This genus differs from *Taractrocera* only by the presence of stigma in ♂.

66. B. PAPHYRIA, Bdv.

Hesperia papyria, Bdv., Voy., "Astrolabe," Lep., p. 166, 1832. *Taractrocera caleno*, Cox, Ent., 1872, p. 402. *Hesperilla fumosa*, Guest, T.R.S., S.A., v., p. 37, 1882. *Apaustus alix*, Plötz, S.E.Z., 1884, p. 165. *Ap. minimus*, Misk., P.R.S., Qld., 1889, p. 153. *A papyria*, M. and L., T.R.S., p. 98.

Type *papyria*, Paris Museum; type *fumosa*, Adelaide Museum; type *minimus*, Queensland Museum.

We formerly placed this and the following species in Hübner's genus *Apaustus*, but as that genus, as now accepted, is confined to South America I adopt Mabilles' genus as being in keeping with the characters of *Bibla*. The stigma of ♂ is well defined.

Larvæ feed on *Imperata arundinacea* and the imagoes frequent the blossoms of lucerne (*Medicago sativa*).

Herberton, Queensland; January and February. Tasmania, South Australia, New South Wales, and Victoria; from November to March.

67. B. FLAVOVITTATA, Latr.

Hesperia flavovittata, Latr., Enc. Meth., ix., p. 768, 1823.
Ancyloxypha agraulia, Hew., Desc. Hesp., p. 45, 1868. *Hesperilla bifasciata*, Misk. (nec Tepp.), Ann. Qld. Mus., 1891, p. 81.
Apaustus flavovittata, M. and L., T.R.S., p. 100.

Type *agraulia*, in Coll. Hewitson (British Museum).

We formerly gave *agraulia*, Hew., as a synonym of *Padraona sunias*, Feld., but a recent comparison of Hewitson's type of *agraulia* with *flavovittata* prove them to be identical. Hewitson says of *agraulia*:—"Alis fuscis; anticis macula magna costali, margine interiori, fascia transversa, maculaque subapiculi vix tripartita aurantiacis, posticis pilis basalibus, macula parva costali, fasciaque transversa aurantiacis." Under-side as above, except that the apex of the anterior wing and the *whole* of the posterior wing are rufous and the bands less distinct. The club and apiculus of this species are very similar to *papyria*; as before mentioned, it is probably a well-marked geographical form of that species.

Perth, Western Australia; in November.

68. B. ANISOMORPHA, n. sp.

♂ ♀, 25-28 mm. Head, palpi, thorax, and abdomen orange-yellow; palpi, thorax, and abdomen beneath whitish; palpi tinted with yellow; terminal joint short. Antennæ fuscous, annulated with white, basal half of club white, hollowed, apiculus short. Legs yellowish, posterior pair fuscous-tinged. Forewings elongate, triangular, costa straight, termen oblique, hardly rounded, dark-fuscous with orange markings; costal area between base and posterior end of cell and whole of cell orange; slightly oblique transverse row of 8 more or less connected spots from just below costa at $\frac{4}{5}$ to vein 1 at anal angle; the two spots between 4 and 6 are quadrate and *completely* separated from the remainder, and very close to termen; the three subcostal ones are not placed obliquely, but directly transverse; the upper of the lower three of band is narrowly cartridge-shaped; the one below nearly quadrate, and that on vein 1 irregular shaped, excised internally. In the ♂ the 3 subcostal spots are connected with orange costal streak by continuation of same; a somewhat flattened patch of narrow blackish scales (representing stigma) parallel to, and edging inner edge of three lower spots of transverse band, not in ♀; basal half of wing below cell and an elongate dorsal streak orange; cilia fuscous, terminal half yellowish, round anal angle orange. Hindwings with termen rounded; dark-fuscous, basal and dorsal hairs long, orange; an oval orange spot in posterior extremity of cell; a moderately broad submedian orange band, outer edge moderately even, inner edge

with double projection in middle, from vein 1 to vein 6; *not* separated by veins; cilia as in forewings, but more orange round tornus. Under-side of forewings blackish; basal third of cell blackish, apical and terminal area of wings from vein 3 to apex greenish-yellow; markings of upper-side, except stigma, reproduced and very narrowly edged with fuscous; cilia as above, but paler. Hindwings greenish-yellow; a fuscous supra dorsal streak, broadest at termination; cellular spot as above, pale-yellow; submedian band reproduced, but upper portion formed into 3 pale-yellow oval spots, faintly edged with fuscous; an obscure yellow spot on vein 1 (indicating lower spot of band); cilia pale-yellow, mixed with fuscous.

Types in Coll. Lower.

This species is in appearance somewhat like *Taractrocera dolon* (Plötz), but is immediately separated by the presence of stigma in ♂ and broad submedian band of hindwing in both sexes. The transformation of the band of upper-side of hindwings into oval spots on under-side is a peculiar and noteworthy characteristic. The late Dr. Staudinger considered this species *Telicota dara* (Koll.), but the antennæ never agreed (in my estimation) with the characters of *Telicota*, and having recently received the ♂ all doubt is at an end, as *dara* has *no stigma*, and although the ♀ of the present species is *very similar* to that species, yet the oval spot of orange on vein 8 of hindwings in *dara*, and which appears to be a constant character, is absent in the present species.

Port Darwin, Northern Territory. Two females and one male; in September and May (*Dodd*).

13. OCYBADISTES, Heron.

Ann. Mag., N.H. (6), xiv., 1894, p. 105.

Type *Walker*i, Heron.

Antennæ about $\frac{2}{3}$ length of costa of forewings; club moderate, elongate; apiculus bent, rather longer than thickness of club; palpi densely scaled, *terminal joint slender*, erect, about half length of second. Forewings with vein 12 reaching costa well before end of cell; vein 8 to apex; 5 nearer to 4 than to 6; veins 2, 3, and 4 equidistant; vein 2 slightly nearer end of cell than base of wing. Hindwings with termen very slightly excised between 2 and 1b; vein 7 well before end of cell; 5 absent; 3 close to end of cell, twice as far from 2 as from 4; vein 2 nearer to end of cell than base of wing. Posterior tibiæ with all spurs present; costa of hindwings above clothed with stiff hairs. *Male with stigma*. This genus has a similar geographical range to *Taractrocera*. It has been suggested that all those species

I have included in this genus should be merged into *Padraona*, Watsn., but the presence of the stigma precludes this, as *mæsa*, Mre., which is the type of *Padraona*, has no stigma. *Padraona* differs from *Ocybadistes* by the absence of the stigma, so that the only two Australian species retained in *Padraona* will be *lascivia*, Rosen., and *heterobathra*, Low.

69. O. MARNAS, Feld.

Pamphila marnas, Feld., Sitz., Akad., Wiss., Wien., Math., Nat., Cl., p. 462, 1860. *Apaustus dschilus*, Plötz, Berl., Ent. Zeit., xxix., p. 229, pl. mcccxciv. (1885). *Telicota marnas*, Elwes and Edwards, P.Z.S., xiv. (4), p. 256, 1897; M. and L., T.R.S., p. 103. *Ocybadistes marnas*, Swinh., T.E.S., pl. ii., fig. 13, p. 21, 1908.

Brisbane to Cooktown, Queensland; from December to June; also from New Guinea and Amboina (type locality).

In Miskin's collection in the Queensland Museum there are 5 specimens of *marnas* and 1 ♀ *augias*, Linn. (var. i.), standing under the name of *olivescens*, Herr.-Sch. I place *marnas* in *Ocybadistes*, chiefly on account of its slender palpi, but it would appear to be more at home in *Telicota* on account of its general resemblance to that genus, but the form of the palpi precludes this.

Type in Coll. Felder.

70. O. WALKERI, Heron.

Ann. Mag., N.H. (6), xiv., 1894, p. 106. *Ancyloxypha agraulia*, Oll., Ann. Mag., N.H., 1888, p. 360, pl. xx., figs. 3a, 3b. *Apaustus sunias*, M. and L. (nec Feld.), T.R.S., p. 101.

Type in Coll. British Museum. Taken at Port Darwin, also at Dammar Island.

This species, which is subject to considerable variation, ranges from Adelaide to Port Darwin, being also found in New South Wales, Tasmania, and Brisbane to Cairns. Probably when its geographical range is definitely known it will be found to occur wherever the couch-grass (*Cynodon dactylis*) flourishes, that being one of its chief food plants. The former description (T.R.S., p. 101) being in part defective, and not representing typical forms, I shall redescribe the species, also the southern variety, which is deserving of a distinctive appellation, and which may ultimately be raised to the rank of species. We formerly placed this species in *Apaustus*, but that genus as now restricted is confined to South America. The differences in *Ocybadistes* and *Padraona* (Moore), structurally considered, are to my mind very slender.

♂ ♀, 18-24 mm. Head, palpi, thorax, and abdomen blackish, densely clothed with orange hairs; palpi and thorax beneath whitish, upper half second joint of palpi orange.

Abdomen beneath orange, mixed with white. Legs pale-yellow, posterior pair orange. Forewings elongate, triangular, costa straight, termen oblique, gently bowed in ♂; dark-fuscous, with orange markings; whole of cell and costal area for whole length of cell orange, leaving extreme costal edge dark-fuscous; a moderately broad transverse fascia, from vein 1 to vein 6, very much narrowed between veins 4 and 6 to about half the width of rest of fascia, directed toward termen, but not nearly reaching it; a nearly quadrate subcostal spot (representing the usual subapical spots) lying midway between apex of fascia and end of cell; suffused orange streaks along vein 1 and dorsum; stigma narrow, nearly straight, from vein 1 to 4 running along anterior edge of fascia; cilia dark-fuscous, terminal half orange. Hindwings with termen rounded; basal and dorsal hairs orange; an ovate spot in cell; a moderately broad orange submedian band of orange from vein 1 to vein 6, lower edge irregularly crenulate, upper edge with a slight projection in middle and a small orange spot resting on inner edge of apex of band, often absent; cilia orange-yellow, fuscous at base. Under-side of forewings blackish, base of cell dark-fuscous; apical area and upper half of termen greenish-orange; markings of upper-side, except stigma, reproduced, but paler, and more or less narrowly edged with fuscous; cilia fuscous, orange at anal angle. Hindwings orange, with a greenish tinge; supra-dorsal streak fuscous, more pronounced on termen; markings of upper-side reproduced, but paler, and finely edged with fuscous; cilia orange, mixed with light fuscous.

Tasmania; Sydney, etc., New South Wales; Brisbane to Port Darwin. Forty-seven specimens; from October to May.

71. *O. WALKERI*, Heron, *var. HYPOCHLORA*, *nov. var.*

The description of this insect is given under the name of *sunius*, Feld., by M. and L. (T.R.S., p. 101), and need not, therefore, be repeated. It differs consistently by the larger size (17-25 mm.), the *much* broader markings, especially in ♂, and especially the clear greenish-yellow under-side of hindwings, which are often without any markings whatever. The stigma is flat and very broad, usually filling up the interspace between the cellular marking and anterior edge of transverse fascia, which, though approached nearest by the Port Darwin specimens, scarcely assumes the same aspect. I have not seen specimens from Victoria, and the specimens I have seen from Sydney, etc., are not satisfactorily connected with the form under review, consequently I prefer to give it a varietal name.

Types in Coll. Lower.

Adelaide, etc., South Australia. Eighteen specimens; from November to February. The imagoes frequent the blossoms of Globe amaranth (*Gomphrena*).

72. O. RECTIVITTA, Mab.

Pamphila rectivitta, Mab., Pet. Nouv., Ent. ii., p. 237, 1878.

♂ ♀, 22-24 mm. Head, antennæ, thorax, and abdomen blackish; antennæ beneath spotted with yellow; club rather narrow, yellow beneath, apiculus fuscous. Thorax and abdomen beneath yellow. Legs yellowish. Forewings elongate, triangular, costa nearly straight, termen oblique, hardly bowed, blackish-fuscous, with orange markings; whole of cell and costal area, from base to end of cell, orange; a small, short, elongate streak lying on lower edge of cell; a direct transverse fascia from vein 1 to vein 6, more or less dentate on either side, but more so posteriorly; an irregular triangular spot, its apex directed toward costa (representing subapical series of spots) lying midway between extreme apical spot of fascia and posterior extremity of orange cellular patch; a streak along vein 1 and another, more distinct, along dorsum; stigma moderate, running along anterior edge of fascia, from vein 1 to near vein 5, more or less broken into spots; cilia dark-fuscous, becoming orange on terminal half round anal angle. Hindwings with termen rounded, slightly more prominent in middle; an oval spot of orange in posterior extremity of cell; an orange submedian band, about twice as broad as fascia of forewings, from vein 1, where it is continued as a streak to base of wing, to vein 6; both edges irregular, lower somewhat scalloped in ♂; a small spot resting on middle of vein 7 and touching apex of band, generally separated in ♀; both fascia of forewings and band of hindwings much abbreviated in ♀; cilia yellowish-orange, with fuscous spots at extremities of nervules. Under-side of forewings black, basal portion of cell dark-fuscous, apical area and upper-half of termen mixed with dull-greenish yellow; an interrupted orange streak along termen narrow from vein 2 to apex; markings of upper side, except stigma, reproduced in yellow and finely edged with fuscous. Cilia as above. Hindwings bright greenish-yellow; markings of upper side reproduced, but paler, and outlined finely with dark-fuscous; dorsal broadly yellow; cilia orange, with a black basal line ending at vein 1.

Types probably in Coll. Staudinger, Berlin Museum. Specimens of this species were submitted to Professor Mabille, who returned them as above.

Mackay, Townsville, Kuranda, and Cooktown. Nine specimens; from March to May; also from Celebes, whence the type came.

73. O. SUNIAS, Feld.

Pamphila sunias, Feld., Sitz., Akad., Wiss., Wien., Math., Cl., p. 462, 1860; M. and L., T.R.S., p. 101. *Apaustus Walkeri*, M. and L. (*nec* Heron); *l.c.*, *Hesperia ahrendti*, Plötz, S.E.Z., xlv., p. 230 (1883), pl. dexciv. *Padraona sunias*, Swinh., T.E.S., 1908, pl. i., fig. 22, p. 18.

♂ ♀, 22-25 mm. Head, palpi, antennæ, thorax, and abdomen dark-fuscous; palpi beneath pale-yellowish, antennæ spotted with orange, club orange, terminal half and apiculus black, thorax and abdomen beneath yellowish. Legs orange-yellow; coxæ paler. Forewings shaped as in *rectivitta*, blackish, with orange markings; markings in ♂ as in *rectivitta*, but all much broader than in that species, band nearly twice as wide, and the apical spot (representing subapical series) generally enlarged so as to touch apical spot of band and cellular spot; stigma and cilia as in *rectivitta*. Hindwings blackish; basal hairs, cellular spot, and postmedian band as in *rectivitta*, but the band, especially in ♀, twice or more than twice as wide, and the spot on apex of band is *rarely separated in either sex* (it generally is in *rectivitta*); cilia as in *rectivitta*. Under-side of both wings, colour markings, etc., reproduced as in *rectivitta*, excepting that markings are enlarged as above. I think this and the former species are distinct enough at *present*, the ♀ in each species especially so. It is highly probable that as our knowledge of this difficult group is advanced intermediate forms may be discovered which will necessitate placing them under one species.

Rectivitta differs chiefly from *sunias* by the narrower markings and position of apical spots of both fore and hind wings; the ♀'s of the former are distinctly and easily separable from those of the latter; but the ♂'s are more, yet not difficult of separation, although some specimens of *rectivitta* approach them closely. Colonel Swinhoe lent me specimens of authentic *sunias* from the Solomon Islands which are *exactly* similar to specimens in Mr. Waterhouse's collection from Murray Island taken in September. The Australian specimens (also those from New Guinea) have the markings above slightly narrower than the Island forms. Swinhoe's figure is not good, and the sex is not mentioned. It appears to represent a different insect from the one under review, but the species I have called *sunias* is typical of those standing in the British Museum under that name.

Type (? in Coll. Tring, Museum).

Kuranda, Cooktown, Queensland; Port Darwin; from January to May. Eighteen specimens. I have seen specimens from Celebes and New Guinea. Felder's type came from Amboina.

74. *O. HYPOMELOMA*, n. sp.

♂ ♀, 24-28 mm. Head, palpi, antennæ, thorax, and abdomen dark-fuscous; palpi whitish beneath, antennæ annulated with whitish, thorax and abdomen clothed above with yellowish hairs, beneath whitish. Legs yellow, mixed with fuscous; ♂ with stigma. Forewings elongate, triangular, costa straight, termen gently bowed; dark-fuscous, with orange markings; a streak along costa, from base to vein 9, leaving a narrow costal streak of ground-colour on extreme edge; in ♀ the yellow streak is interrupted in middle by ground-colour; cell filled in with orange, in ♀ interrupted by intrusion of ground-colour; 3 moderate, cartridge-shaped, subcostal spots at about $\frac{2}{3}$ from base, upper one about $\frac{1}{3}$ the size of other 2, lower one in ♂ tending to touch costal streak; an oblique transverse band of 5 irregularly cartridge-shaped spots, posterior edges excavate, anterior edges obtuse, lying between veins 1 and 6, upper 2 half the size of remaining 3; stigma narrow, obscure, lying between veins 1 and 4, and closely appressed to anterior edge of 3 lower spots of oblique band; a narrow dorsal streak, from base to near anal angle; cilia dark-fuscous, becoming yellowish round anal angle. Hindwings with termen rounded, slightly prominent on vein; dark-fuscous; markings orange; basal hairs orange; a roundish spot in cell; an oblique band of 5 spots as in forewing, lowest spot continued along vein 1 to base and termen, more obscure in ♀; a small somewhat ovoid spot lying on vein 6, well separated from oblique band; cilia yellowish, mixed with fuscous at base. Under-side of forewings dark-fuscous, apical and terminal area irrorated with yellow scales; markings of upper-side, except stigma, reproduced; cilia ochreous-fuscous, with a fine black line along termen. Hindwings yellowish-orange; markings pale-yellow; an ovoid spot in posterior end of cell; a cuneiform spot lying on vein 6, representing spot of upper side; 3 very oblique, cartridge-shaped spots at $\frac{2}{3}$ from base, lying between veins 2 and 6, upper one inclining to be double and reaching close to termen; indications of a suffused spot on vein 1 at $\frac{2}{3}$ from base; a well-marked elongate cuneiform black streak from base to termen; extreme dorsal edge yellow-whitish; cilia as in forewings, but becoming pale-yellow round anal angle.

This species, which appears scarce, is an excellent mimic of *Taractrocera dolon*, Plötz, but the antennæ afford an

immediate distinguishing test. In the fifteen specimens of *dolon* before me some have a small yellow fleck on vein 6 on upper side of forewing, but not of sufficient importance as to confuse it with the present species. From its general appearance it is probable that it has been overlooked by being confused with *Walkeri*.

Herberton and Kuranda, Queensland; in March.

One ♀ specimen (*Dodd*), Roseville, near Sydney; two ♂ specimens; in April (*Waterhouse*).

Types in Coll. Lower.

14. PADRAONA, Mre.

Lep., Ceylon, vol. i., p. 170, 1881.

Type *mæsa*, Mre.

I have examined a specimen of ♂ *dara*, Koll., and the generic characters differ from *Ocybadistes* only by the *absence* of stigma of ♂, vein 2 practically equidistant from end of cell and base of wing, twice as far from 3 as from 4. In the hindwings of ♀ vein 2 is sometimes exactly midway between 3 and base. Elwes and Edwards place this genus as a synonym of *Telicota*, Mre., but I prefer to keep them separate, as it is desirable to prevent the group becoming unwieldy and more difficult.

75. P. LASCIVIA, Rosen.

Pamphila lascivia, Rosen., Ann. Mag., N.H., 1885, p. 378, pl. ii., fig. 1. *Apaustus lascivia*, Waterh., P.L.S., N.S.W., 1897, p. 244; Vict., Butt., 1894, p. 113; M. and L., T.R.S., p. 100. *Pamphila neocles*, Mab., Cont. Rend. Soc., Ent. Belg., vol. xxxv., p. 177, 1891.

I sent specimens of this species to Professor Mabille, who returned it as *Padraona neocles*, Mab.

Colonel Swinhoe suggested forming a new genus to receive this species, but I am unable to discern any different characters by which a new genus could be safely erected, excepting perhaps that this species has somewhat broader wings than some of its congeners. The specimens from the Cairns and Herberton districts in North Queensland have the ground-colour of wings nearly black, and the markings both above and beneath much more sharply defined than those from the southern districts, but they do not warrant a distinctive name.

Type in —? British Museum.

Victoria, Tasmania, New South Wales, and Queensland. Thirty-nine specimens; from November to March.

76. P. HETEROBATHRA, Low.

Apaustus heterobathra, Low., T.R.S., S.A., p. 316, 1908.

Types in Coll. Lower.

I have specimens from Ké, consequently I hazard the opinion that in all probability it has been previously described. On comparing the figure of *Taractrocera* (*Hesperia*) *aliena*, Plötz (from Java), T.E.S., 1908, pl. i., fig. 20, it appears to approach that species closely. Colonel Swinhoe, to whom I submitted specimens, returned it as unknown to him.

Mackay, Cairns to Port Darwin. Ten specimens; from January to March.

Note.—It may be desirable to mention that *Ocybadistes* (*Hesperia*) *flavoguttata*, Plötz, S.E.Z., xlv., pl. 696, p. 231, 1883, which is said to be from Australia, is represented in the British Museum by specimens of *O. Walkeri* from Sydney. I am satisfied that the identification is erroneous. I do not mean to insist that *flavoguttata* is not to be found in Australia, but that Plötz's figure does not represent *Walkeri*. Plötz's type came from Manila, and Colonel Swinhoe figures it in T.E.S. (pl. ii., fig. 14, p. 21, 1908). The late Dr. Staudinger sent me 5 specimens labelled "Australia (?) *flavoguttata*", but they are specimens of *Taractrocera ziclea*, Plötz, and I think there is a mistake in the locality. I may say, *en passant*, that the same five specimens have been identified for me as *Telicota dara*, Koll., but this is purely an haphazard guess, as the antennal club is characteristic of *Ziclea*.

15. TELICOTA, Mre.

Lep., Ceylon, i., p. 169, 1881; M. and L., T.R.S., p., 102.

Type *augias*, Linn.

Antennæ more than half as long as costa, club stout, moderately long, apiculus pointed, bent, as long as, or longer than greatest width of club. Palpi erect or suberect, *terminal joint stout, short*, bluntly pointed. *Forewings in ♂ with stigma*; 2, 3, and 4 practically equidistant in ♂; in the ♀ 3 and 4 are closely approximated at base, and 2 is widely remote from 3, being midway between 3 and base of wing; in both sexes 5 is approximated to 4 toward base. Hindwings with 5 absent; 2, 3, and 4 somewhat approximated toward base; 3 is nearly twice as far from 2 as from 4; posterior tibix with all spurs.

As restricted by me *Telicota* will embrace those species with the above characters; the genus as thus constituted principally differs from *Padraona*, Mre., by the presence of the discal stigma, position of vein 2 of forewing, and stouter

palpi; and from *Ocybadistes*, Heron, by the stouter terminal joint of palpi, different form of stigma, and relatively large size. In a group so difficult as this it is necessary to utilize any character of value which will facilitate accuracy in determining the various species, and I trust that the characters as herein delineated may prove as useful as I intend them to be, as the varieties mentioned are easily recognizable.

77. T. AUGIUS, Linn.

Papilio augias, Linn., Syst., Nat., p. 794, 1767. *Pamphila Kreffti*, MacL., Proc. Ent. Soc., N.S.W., p. 54, n. 20, 1866. *Pamphila ancilla*, Herr.-Sch., S.E.Z., p. 79, n. 59, 1869. *P. olivescens*, *ib.*, *l.c.*, n. 60, fig. 14, t. 3, 1869; *ib.*, ex Schmett, ii., p. 116. *Hesperia argeus*, Plötz, S.E.Z., xlv., p. 229, n. 704, 1883. *H. augustula*, Plötz (*nec* Herr.-Sch.), *l.c.*, n. 705. *Telicota augias*, Dist. Rhop., Malay, p. 382, pl. xxxiv., fig. 23, 1886; M. and L., T.R.S., p. 105.

As neither Elwes nor Swinhoe gives *sagara*, Mre., as a synonym I will refrain from doing so.

This species is subject to considerable local variation; that is, *if* all the species ranged as above are one and the same variable species. I cannot bring myself to consider it of such a variable nature as to embody insects ranging in size from 25 to 44 mm. and in markings varying in size, intensity, and position. In the past it seems to have been considered satisfactory enough to consider any deviation of the type pattern in this group (*Telicota*) to be a variety of *augias* without considering the matter thoroughly; it certainly is a very simple manner of disposing of any difficult deliberations, but is not satisfactory. It seems singular that this one unfortunate species should be singled out for such notoriety. I admit that it does vary; but not to the extent attributed, and until a thorough and exhaustive study of the various species of this (*Telicota*) group is made from considerable material from Australia and the adjoining islands confusion must reign. To give an instance, I had *typical* ♂ specimens of *bambusæ*, Mre., identified by a leading authority as "*augias*, without doubt," and the ♀ was identified as a variety of *augias*. I sent the *identical* insects to another eminent writer, and the ♂ was given as probably *bambusæ*, and the ♀ as *olivescens*, Herr.-Sch. Leaving out the Indo-Malayan species, I find that the Australian specimens, which range from Sydney to Port Darwin, resolve themselves into the following well-marked forms. I cannot consider them local races, because in some districts one or more varieties occur in the same locality. Perhaps some of them will ultimately be raised to the rank of species.

77A. Var. I. T. AUGIAS, Linn.

(including *krefftii*, Macl., and *argeus*, Plötz).

Wings above fuscous, *markings yellow*; markings of subterminal band continued as fine lines along *both edges* of veins to termen. Under side of hindwings yellow. Markings of upper side reproduced in dull-orange; median band margined with fuscous lunules; stigma broad, entire, edged with blackish. This I consider typical *augias*, and I have specimens from Sydney, New South Wales; Townsville, Queensland; and Port Darwin. *Argeus* and *krefftii* differ from typical *augias* only by the paucity of markings of under-side of hindwings. It would be interesting to learn what Plötz considered *augias*, as, curiously enough, when showing the relationship of these several species he mentions *augias*, and gives *sagara*, Mre., *krefftii*, Macl., and *ancilla*, Herr.-Sch., as synonyms.

Argeus and *krefftii* are practically confined to the Cape York district, so far as I am aware.

78. Var. II. T. ANCILLA, Herr.-Sch.

♂, *Pamphila ancilla*, Herr.-Sch., S.E.Z., p. 79, n. 59, 1869. ♀, *P. olivescens*, *ib.*, *i.l.*, n. 60, 1869; *ib.*, ex. Schmiett, *ii.*, p. 116. *Telicota bambusæ*, M. and L. (*nec* Moore), T.R.S., p. 107.

Wings above dark-fuscous, *markings deep-orange*; markings of subterminal band continued as fine lines to termen along *lower edge* of veins only. Under-side of hindwings varying from greenish to dull-olive greenish; markings of upper side reproduced as in var. i. rarely absent. Stigma from moderately broad to broad, edged with blackish. This is the commonest Australian form, and extends from Sydney to Port Darwin. The green under side is very beautiful in freshly-bred specimens, but it rapidly fades. Curiously enough, the females show the greenish tinge more strongly than the opposite sex. As will be noticed, Herrich-Schäffer gave the sexes different names, and although they show slight variations there is no doubt that the two sexes represent but one species. *Olivescens* is well figured in S.E.Z., and is quite recognizable. Of this species Schäffer says:—"Unten das Spitzendrittel der V. fl und de H fl von Z, lb am bleich olivegrün, M Fleck und Band der letzteren kaum angedeutet; gelblicher, *ohne schwarze Mondchen*." It is true that many ♀ specimens are without the black lunules of under side of hindwing, but it is not a reliable character, as every intermediate form occurs. The band of upper side is reproduced in varying degrees of intensity, but is always delineated. We formerly called this *bambusæ*, Mre.

79. Var. III. T. AUGUSTULA, Plötz.

This is very similar to *ancilla*, but the markings are more broadly defined, deeper orange, and the under side of hindwings is bright orange with scarcely any markings. Stigma as in *ancilla*, but narrower. This is not the *augustula* of Herr.-Sch., and that species is referable to *Corone*. Plötz identified the species wrongly. This variety is scarce. My four specimens are from Mackay and Cape York, and were taken in November and December.

80. Var. IV. T. MESOPTIS, *nov. var.*

Wings above blackish, markings orange; subterminal band in both wings narrow, half the width of that in *ancilla*. Lower edge shortly produced, not nearly reaching termen. Under side of hindwings dull-olive greenish. Band of upper side reproduced in dull-orange and edged with black lunules. Stigma very narrow.

This variety is nearest *brachydesma*, Low., and appears to fluctuate between that species and *eurotas*, Feld., differing from both by the under-side of hindwings.

My specimens are all from the Kuranda district, taken in March, April, and May.

Before closing my remarks on this species I may state that although but four well-marked varieties are mentioned there are several slight minor varieties. These need not disturb the general scheme, as they can be easily assigned to the different varieties. The whole of the species mentioned vary little as regards size, the ♂'s being from 24 to 26 mm. and the ♀'s from 25 to 32 mm.

81. T. ANISODESMA, n. sp.

Type in Coll. Lower.

♂, 40-42 mm. Head, palpi, antennæ, thorax, and abdomen fuscous, palpi beneath orange, antennæ beneath banded with blackish. Club beneath yellow, thorax and abdomen clothed with orange hairs above and beneath. Legs orange. Forewings elongate triangular, termen gently bowed, dark fuscous, with orange markings; stigma oblique, moderately broad; a broad costal streak from base to extremity of vein 12; cell filled in with orange; interspaces between veins 12 and 9 filled in with orange, quite or nearly reaching costa; an elongate spot at base of veins 7 and 8 continued as fine lines along both edges of veins to termen; 3 moderately large irregularly subquadrate spots lying on veins 1, 2, and 3 respectively, posteriorly excised and lower edge more or less continued as a fine line along vein to near termen; 2 small simi-

lar spots lying on veins 4 and 5; the whole 5 forming an oblique series, but last 2 nearer termen; a moderate dorsal streak from base to near anal angle. Hindwings with termen rounded, somewhat prominent on vein 1; dark fuscous with orange markings; basal hairs orange; an ovate spot in cell; a transverse row of four moderately broad, somewhat cartridge-shaped spots, separated by veins; anterior apices obtuse, posterior excised, that on vein 1 continued along vein to termen; cilia of forewings fuscous, becoming orange round anal angle; cilia of hindwings orange, becoming fuscous round apical third. Under-side of both wings orange-yellow, markings of upper-side, except stigma, reproduced; dorsal and basal area of forewings dark-fuscous; transverse markings of forewings edged anteriorly and posteriorly with blackish lunules; cilia more yellowish; band of hindwings clearer orange and edged anteriorly and posteriorly with black lunules; cilia orange, with a black terminal line at base not extending beyond vein 2.

I do not know the ♀ of this species. The ♂ is very like ♂ *bambusæ*, Mre., from India, and is probably the Australian representative of that species. It appears to differ by the somewhat narrower transverse markings of both wings, the continuation of the lower edge of markings of forewings to termen, and especially by the unevenness of the anterior edges of the 5 transverse spots of forewings, which in *bambusæ* are usually even and limited by the stigma, while on the under-side the blackish lunules are much enlarged in comparison with *anisodesma*. Moore's figures of *bambusæ* (P.Z.S., 1878, p. 45), Nos. 11-12, are fair. They do not figure the under-side, but the upper-side of both sexes show the transverse band of forewings with the internal edge quite straight. Moore's original description (*l.c.*) reads:—"Pamphila bambusæ, allied to *augias*, Linn., from typical Java specimens of which it differs in its somewhat broader and less pointed wings. Markings above similar, but more defined; the borders of the wings blacker, the basal yellow streak on hindwing confined to a terminal spot at end of cell, and the abdominal border black. On the under-side the markings are also more clearly defined and the interspaces blacker."

I have seen seven male specimens of *anisodesma*, and they do not vary from the description given. The nearest approach to the Indian and Sarawak specimens of *bambusæ* is the specimen from Mackay. The other specimens are from Richmond River (*Waterhouse*), Townsville (*Dodd*), and Brisbane (*Illidge*), and were taken in March and April.

82. T. EURYCHLORA, Low.

T.R.S., S.A., p. 314, 1908.

Types in Coll. Waterhouse.

Ballina, Richmond River; in February.

83. T. BRACHYDESMAS, Low.

T.R.S., S.A., p. 312, 1908.

Types in Coll. Lower and Waterhouse.

Kuranda and Cooktown, Queensland; March and April.

84. T. OHARA, Plötz.

Hesperia ohara, Plötz., S.E.Z., 1883, p. 226; M. and L., T.R.S., p. 104.

Having received both sexes and fresher specimens I re-describe the species.

♂, 38 mm.; ♀, 40-48 mm. Head, palpi, antennæ, thorax, and abdomen dark-fuscous; palpi beneath yellow; antennæ spotted with yellow beneath; club beneath yellow, reddish on apical half; thorax and abdomen more or less clothed with golden-ochreous hairs. Legs orange-fuscous. Forewings elongate, triangular, costa nearly straight, termen oblique, hardly rounded in ♂, slightly rounded in ♀; dark-fuscous, inclining to blackish, markings deep-orange; an elongate streak along costa from base to very near middle, absent in ♀; whole of cell filled in with orange; in ♀ only represented by either two spots, sometimes joined, at posterior end of cell, or one spot and an elongate streak along lower edge of cell; an oblique row of three quadrate spots, outer edges excised, from vein 1 to vein 4, edged on inner edge by stigma, which is entire, moderate, with outer edge straight and inner edge somewhat dentate; a row of 3 elongate, somewhat cartridge-shaped spots near apex, between veins 6 and 9, absent in ♀; between veins 4 and 6 are two small irregularly-shaped spots, making a more or less complete band from vein 1 to 9, absent in ♀; a moderate streak along dorsum; cilia fuscous, becoming orange round anal angle. Hindwings with termen rounded, slightly indented between veins 1 and 2; dark-fuscous, inclining to blackish; markings deep-orange; basal hairs orange; a roundish spot at end of cell; a submedian band of 4 spots, much narrower in ♀; two middle ones elongate, cartridge-shaped; spot between veins 1 and 2 irregularly edged and continued along vein 1 to base and termen; upper spot irregularly quadrate; cilia orange. Under-side of forewings dull-fuscous, more or less tinged with dull-olive greenish, especially on margins; markings of upper-side, except stigma, reproduced. Hindwings as forewings; markings of upper-

side reproduced; band faintly edged with fuscous; cilia orange-yellow, more pronounced at anal angle.

This species is easily recognized, especially the ♀, which is curious in having no spots between vein 4 and the apex. The ♂ is not unlike a large *bambusæ*. The under-side of both sexes has the ground-colour similar; that is, dull-olive greenish, tinged with fuscous.

Kuranda, Queensland. Five specimens; January to April; also from Mackay.

85. T. ARUANA, Plötz.

Hesperia aruana, Plötz, S.E.Z., p. 103, 1886, pl. meccclx. *Pamphila autoleon*, Misk., P.R.S., Qld., 1889, p. 147. *Erynnis Macleayi*, M. and L. (nec Plötz). *Telicota aruana*, Swinh., T.E.S., pl. ii., fig. 9, 1908.

Type *aruana*, in Coll. Erhardt (Munich); type *autoleon*, Misk., in Queensland Museum.

Since seeing Plötz's drawing of *Macleayi* I am of opinion that it does not represent *aruana*, but an allied species. I am strongly of opinion that *Dobboe*, Plötz., and *Oharina*, Stgr. (M.S.S.), represent very slight geographical variations of *aruana*, the former representing the ♀, the latter the ♂. I have both from New Guinea and the Aru Islands, and the only difference is the more prominent cellular streak on upper-side of forewings. I place *aruana* in *Telicota*, as it possesses the ♂ stigma; otherwise it would be better placed in *Corone*, as veins 2, 3, and 4 of forewings are not equidistant. I look upon this species as forming a connecting link between *Telicota* and *Corone*, yet not necessitating forming a new genus.

Mackay to Cairns, Queensland; November to May; also from Aru Islands.

16. CORONE, Mab.

Pet., Nouv., Ent., p. 205, 1878.

Type *ismenoides*, Mab.

This genus differs from *Telicota* by the absence of stigma on either forewing or hindwing, and the position of the veins 2, 3, and 4 of forewing. In both sexes 3 and 4 are closely approximated at base, 3 from immediately before angle, 2 midway between 3 and base of wing.

Edwards and Elwes (Rev. of Hesp.) place *augiades*, which is closely allied to *sperthias*, in *Telicota*.

86. C. SPERTHIAS, Feld.

Hesperia sperthias, Feld., Verh. Zool., Bot. Geis., xii., p. 492, 1862. ♀, *Pamphila ulama*, Butl., T.E.S., p. 504, 1870. ♀, *Corone ismenoides*, Mab., Pet., Nouv., Ent. ii., p. 204, 1878. *Palmarum*, Scott, M.S.S. *Phineus*, Scott (nec Cram.), Aust., Lep., pl. xiv., 1890. *Erynnis sperthias*, M. and L., T.R.S., p. 113.

We formerly placed this species in *Erynnis*, Sch., but that genus is immediately known by the minute apiculus of club of antennæ, and so far as is known has no representatives in Australia. Elwes gives *comma*, Linn., as the type of the genus *Erynnis*. Mr. Meyrick, in his handbook, places that insect in *Pamphila*, Fabr.

Type ♂, in Coll. Felder; type ♀, in Coll. Mus. God.

Sydney to Cape York; from November to February. Larvæ feed on various *palms*.

Mr. Waterhouse tells me that Felder described this species from specimens obtained by Frauenfeld from A. W. Scott when in Sydney. Scott had given the M.S. name of *palmarum* to this species, according to Felder. In Scott's Australian Lepidoptera (pl. xiv., 1890) the name of *palmarum*, Scott, appears on the plate, and *phineus*, Cramer, on the explanatory plate. The latter name, *i.e.*, *phineus*, originated with Mr. G. F. Matthew, who, when breeding the species, misidentified it with the *Surinam* species. The reason why the name appears as *palmarum*, Scott, on the plate and *phineus*, Cramer, in the text is that the plates were struck off many years before the notes of Scott were published by A. S. Olliff.

87. C. TRICHOPEPLA, LOW.

T.R.S., S.A., p. 315, 1908. *E. palmarum*, M. and L. (*nec* Moore), *l.c.*, p. 110, 1902.

We formerly called this *palmarum*, Mre. (an Indian species), which the ♂ resembles somewhat above, but the ♀ is totally different, being similar to the ♂; whereas in *palmarum* the ♀ is dark-brown, with yellowish markings, and has not been taken in Australia up to the present.

Types in Coll. Lower.

Through the kindness of Mr. H. J. Elwes I have been fortunate enough to examine ♂ and ♀ specimens of Moore's *palmarum*. They are not to be confused with *trichopepla*. The drawings in P.Z.S. are excellent, and indicate the Indian *palmarum* with certainty. Unfortunately the under-side is not delineated.

Mackay to Port Darwin; from November to March.

88. C. AUGUSTULA, Herr.-Sch.

Pamphila augustula, Herr.-Sch., S.E.Z., p. 79, n. 58, 1869. *Erynnis augustula*, M. and L., T.R.S., p. 109.

Townsville, Queensland. One specimen; in October (Dodd). The type came from Fiji.

17. PARNARA, Mre.

Lep., Ceylon, i., p. 166, 1881. Watson, P.Z.S., 1893, p. 105.
Caltores, Swinh., T.E.S., 1893, p. 393.

Type (*Caltores*) *kumara*, Mre.; type (*Parnara*) *guttatus*, Brem.

Antennæ as long or longer than half of costa; club moderate, apiculus distinct, as long as or longer than greatest width of club. Second joint of palpi densely scaled, terminal joint obtuse, very short, almost concealed; vein 5 nearer 4 than to 6, curved upwards from base, 2 from about middle of cell. Hindwings with 2 from apical fourth of cell, 5 absent. Hind tibiæ with two pairs spurs; ♂ without stigma.

89. P. AMALIA, Semp.

Pamphila amalia, Semp., Mus. God. Lep., xiv., 1878. *Hesperilla fulgidus*, Misk., P.R.S., Qld., p. 151, 1889. *Erynnis fulgida*, M. and L., T.R.S., p. 116, 1902.

Type *amalia*, in Hamburg Museum; type *fulgidus*, in Queensland Museum.

Brisbane to Port Darwin; October to December.

90. P. LARACA, Swinh.

Caltores laraca, Swinh., A.M.N.H. (7), xx., p. 434, 1907; T.E.S., pl. ii., fig. 21, 1908.

♂ ♀, 36-42 mm. Head, palpi, thorax, antennæ, and abdomen fuscous; palpi beneath pale-yellowish; thorax and abdomen haired with greenish-yellow, becoming paler and brighter beneath; antennæ beneath spotted with yellowish; club yellowish beneath; apiculus reddish. Legs reddish-yellow. Forewings elongate, triangular; costa very slightly arched, termen obliquely rounded; dark-fuscous; basal half of wing and dorsum clothed with short orange hairs; markings pale-yellowish, semi-transparent; two spots in end of cell, upper elongate, lower irregularly quadrate; an irregular transverse series of three small subapical spots lying between veins 6 and 9, middle one lying at base of veins 7 and 8; a rather elongate, somewhat quadrate spot lying at base of veins 2 and 3; a second, not quite half the size, immediately above, placed obliquely and excised posteriorly; a third, roundish, obliquely above, between veins 4 and 5; a somewhat cartridge-shaped yellow spot lying on vein 1 in middle; cilia yellowish-white. Hindwings with termen rounded, anal angle rounded, prominent; colour, orange hairs, and cilia as in forewings; two ovoid, pale-yellowish, semi-transparent spots lying beyond middle of wing between veins 2 and 4. Forewings beneath rather bright-greenish yellow or yellow, lower half of wing, which is fuscous, excepting terminal area; markings of upper-side reproduced; cilia as above. Hind-

wings bright-greenish yellow or yellow, especially in ♂ ; spots of upper-side reproduced, but appearing more transparent; cilia yellow.

Colonel Swinhoe places this species in *Caltoris*, Swinh. (type *kumara*, Mre.), but owing to its affinity to *colaca*, Mre., I see no reason for separating it from *Parnara*, as defined. It is somewhat like *mathias*, ♀ ; but the absence of stigma easily separates it.

Type in British Museum.

Port Darwin and Woodlark Island, New Guinea.

Mr. Dodd sent me a fine series, which show no variation. The footnote at end of description of *mathias*, T.R.S., S.A., p. 117, 1902, refers to this species. The type came from Woodlark Island.

91. *P. COLACA*, Mre.

Hesperia colaca, Mre., P.Z.S., 1877, p. 594, pl. lvii., fig. 7. *Parnara cingala*, Mre., Lep., Ceylon, i., p. 167, pl. lxx., figs. 3a, 3b, 1881. *Hesperia urejus*, Plötz, Berl., Ent. Zeit., xxix., p. 226, 1885, pl. mccccxv. *H. saruna*, ib., l.c., xlviii., p. 90, 1886, pl. mccccxxix.

♂ ♀, 33-38 mm. Head, palpi, antennæ, thorax, and abdomen dark-fuscous. Palpi beneath pale-yellowish, antennæ rather short, hardly half the length of costa. Thorax and abdomen clothed above with golden-ochreous hairs, beneath ochreous-whitish. Legs ochreous fuscous. Forewings elongate, triangular, costa straight, termen oblique, slightly bowed; dark-fuscous, markings whitish, semi-hyaline; a transverse row of 3 small subapical spots, upper one often absent; a somewhat quadrate spot at base of veins 2 and 3; a small cartridge-shaped spot at base of veins 3 and 4; a small spot nearly at base of veins 4 and 5; some golden hairs along dorsum; cilia ochreous-fuscous, darker on basal half. Hindwings with termen rounded; generally two small dots in middle of wing at $\frac{2}{3}$ from base, sometimes obscure; cilia as in forewings. Forewings below dark-fuscous, costal, apical, and terminal areas finely irrorated with pale-ochreous; markings of upper-side reproduced. Hindwings below dark-fuscous wholly irrorated with pale-ochreous scales, markings of upper-side reproduced, somewhat obscure.

Swinhoe says (T.E.S., p. 23, 1908):—"At the end of the cell of forewings there are generally two spots. Sometimes only one and sometimes both are obsolescent; in the figures on pl. mccccxv. there is only one; in pl. mccccxxix. both are absent. I have Indian examples like both."

De Niceville, in writing to Mr. Rowland Turner, says:—"Parnara colaca. This agrees exactly with specimens from

India. I expect it has probably been separately described from Australia."

Described from Australian specimens.

All the specimens I have seen are similar, and do not vary from my description. Mr. Turner states that our species does not agree with those *colaca* in British Museum.

Mackay, Atherton, and Kuranda, Queensland; in April.

92. P. IMPAR, Mab.

Pamphila impar, Mab., l.c., pl. xvi., vol. xxvii., 1883.

"Niger, alæ latæ; anticæ tria puncta offerentes, in seriem obliquam inter ramos; unum minimum ante cellulum, unum quadratum, magnum, albo argenteum inter primum et secundum ramum nervi compositi posterioris, et unum fere triangulare ad nervum simplicem, subluteum. Anticæ subtus apice rufescentis easdem maculas gerunt. Posticæ griseæ habent tria puncta albida, unum ad margineum anticum, et duo paulo inferius approximantia." "Le dessus des ailes est d'un brun foncé presque noir. Les ailes inférieures ont trois points blancs transparents en ligne oblique entre les rameaux; le premier est très petit, et le troisième, triangulaire, est placé contre la nervure simple postérieure et tenite de jaune pâle. Le dessous des ailes supérieures a l'apra et la côte lavés de rougâtre, avec les points du dessus plus marqués. Les ailes inférieures sont d'un brun grisâtre luisant, avec trois points blancs auprès du bord antérieur et deux du dessous, rapprochés et placés entre les rameaux. Le corps est brun. Une femelle d'Australie et onde Océanie." Apparently something like some forms of *colaca*, Mre.

93. P. SIGIDA, Mab.

Pamphila sigida, Mab., Comp. Rend. Soc., Ent. Belg., vol. xxxv., p. 177, 1891.

"Brun noir. Ailes supérieures à points et à taches blanc jaunâtre, transparents, savoir-trois pointe apicaux allongées, en ligne droite; trois taches sur le disque dans les intervalles, 2, 3, et 4 et ombrées de noir foncé intérieurement; deux petits points blanc jaunâtre au bout de la cellule. Inférieures avec trois points diffus sur le disque dans les intervalles, 4, 5, et 6. Frange jaune roussâtre. Dessous des supérieures noirâtre à la base, et brun rougeâtre sur la moitié terminale, taches reunies sur le disque. Inférieures brun rouge avec une éclaircie correspondante aux taches du dessus. Corps brun foncé, ventre blanchâtre ainsi que la poitrine et les palpes." 30 mm., Australia.

The description of this species (which I fail to recognize) reads somewhat like *amalia*, Semp., but it cannot be that

species, as Mabille returned specimens as unknown to him with the words "*Parnara* (groupé *séguttata*), Br." Possibly this and the former are not Australian. I refer them to *Parnara* with some doubt, but they appear rightly referred.

18. CHAPRA, Mre.

Lep., Ceylon., i., p. 169, 1881.

Type *mathias*, Fabr.

This genus differs from *Parnara* only by the presence of stigma of ♂.

94. C. MATHIAS, Fabr.

Hesperia mathias, Fabr., Ent. Syst. Supp., p. 433, n. 289, 290, 1798. *Hesperia thrax*, Led., Verh. Zool. Bot. Geis., Wien., 1855, p. 194, pl. i., figs. 9-10. *Chapra mathias*, Mre., Lep., Ceylon, i., p. 169, pl. lxx., figs. 1 and 1a, 1881. *Baoris mathias*, Dist. Rhop. Malay, p. 380, pl. xxxv., fig. 10, 1886. *Erynnis mathias*, M. and L., T.R.S., p. 117.

Elwes and Edwards (Rev. of Hesp.) give *agna*, Mre., as a synonym. Colonel Swinhoe considers it distinct.

Brisbane to Cape York, Port Darwin; from October to May; also from India, Java, Borneo, etc.

19. SABERA, Swinh.

Trans. Ent. Soc., p. 30, 1908.

Type *cæsina*, Hew.

Palpi upturned, thickly hairy; *antennæ two-thirds length of costa*; club rather long and even, not thick; apiculus short and curved. Forewing with vein 2 from about middle of cell, 3 from lower end, 4 from end, 5 below middle of discocellular, 6 and 7 from upper end, 8 from close to upper-end, 12 ending on costa well beyond upper-end of cell; hindwings with vein 4 from end of cell, 2 and 3 from close before end at equal distances apart (? 5 from middle of discocellular), 6 and 7 from upper end, 8 coincident with 7 for a short distance from the base, thence well separated.

We formerly placed the type of this genus, *i.e.*, *cæsina*, in *Erynnis*, Sch., but the antennæ of this species and the following were discordant characters, as the length ($\frac{2}{3}$ of costa) indicated a different genus. I have followed Colonel Swinhoe in the generic description, but can find no vein 5 on hindwing; possibly this is a printer's error or *lapsus calami*.

The sexes are similar; the ♂ has no perceptible stigma, but has a peculiar small ovoid membranous spot lying on vein 1 just inside the small white spot at end of white band of forewing. It is easily passed over, but is constant, and may, and probably does, indicate an embryo stigma. The white discal macular band of forewings is narrower and more abbreviated

in the ♀. Mabille referred *cæsina* to *Acerbas*, De Nic., of which *anthea*, Hew., is the type.

95. S. CÆSINA, Hew.

Carystus cæsina, Hew., T.E.S. (3), ii., 491, n. 15, 1866; ex. Butt., v. Hesp., t. 6, fig. 57, 1873. *Pamphila albifascia*, Misk., P.R.S., Qld., p. 148, 1889. *Erynnis cæsina*, M. and L., T.R.S., p. 118. *Sabera cæsina*, Swinh., T.E.S., p. 31, 1908.

Type *cæsina*, in Coll. Hewitson (British Museum); type *albifascia*, in Coll. Miskin (Brisbane Museum).

Cairns, Queensland; from December to April; also from New Guinea, North Borneo, and Humboldt Bay.

96. S. FULIGINOSA.

Pamphila fuliginosa, Misk., P.R.S., Qld., vi., p. 147, 1889; ♀ ♂, *ib.*, Ann. Qld. Mus., p. 76, 1891. *Erynnis fuliginosa*, M. and L., T.R.S., p. 115.

Types in Coll. Miskin (Queensland Museum).

Mackay to Cairns, Queensland; from January to May.

I think at present it would be better to widen the characters of *Sabera* by adding ♂ sometimes with stigma than to erect a new genus for this species. It is structurally similar, excepting that the ♂ has a stigma. It is an easily recognized species, the snow-white cilia of hindwings being specifically distinct and noteworthy. Probably it is more nearly related to *Telicota*.

97. S. (? CARYSTUS) VALLIO, Mab.

Comp. Rend. Soc., Ent. Belg., 1883, vol. xxvii., p. 60.

Rufo-fuscus; alæ anticæ cum triplici serie macularum; ad costam ante apicem sunt tria puncta alba hyalina, duæ maculæ in cellula junctæ et duæ aliæ inter ramos, coaduntæ luteo hyalinæ. Alæ posticæ immaculatæ, fimbria subfulva, alæ subtus viride variegatæ. Anticæ rubidæ cum marginis externi parte superiore et margine interno lilacino. Posticæ rubidæ cum vitta media cinereo lilacino.

Les trois séries de taches des ailes supérieures diffèrent de couleur. Les trois points apicaux sont d'un blanc transparent; les taches de la cellule et du disque sont réunies deux par deux, également hyalines, mais jaune paille. Le dessous des ailes inférieures est traversé, en son milieu, par une bande courbe d'un gris lilac; le corps est concoloré, les palpes et la poitrine sont gris cendré. Le dernier article des palpes est aciculé droit et noir.

Nouvelle Hollande.

This description reads somewhat like *Hesperilla Doubledayi*, Feld., ♀, but the green (viride variegatæ) under-side does not agree with that used. I sent *Doubledayi* ♂ to

Mabille, who returned it with the remark "J'en ai ♂ sans nom," so that it is hardly likely he would fail to recognize the ♂—that is, supposing his description refers to a ♀, which is uncertain, as he gives no clue to the sex or size of same. I do not know this species, and am placing it here provisionally.

20. NOTO CRYPTA, De Nic.

Jour. Bomb., N.H. Soc., 1889, p. 188; Watson, P.Z.S., 1893, p. 112. *Plesioneura*, Feld., Wien., Ent. Mon., vi., p. 29, 1862 (*nom. præocc.*).

Type *curvifascia*, Feld.

Club of antennæ elongate, moderate, apiculus pointed, bent. Palpi subascending, terminal joint short, obtuse, porrected. Posterior tibiæ with all spurs, rather long. Forewings in male without stigma; 3 from rather near 4; 5 much nearer to 4 than to 6; 2 much nearer to base of wing than end of cell. Hindwings with vein 5 practically obsolete.

98. N. FEISTHAMELI, Bdv.

Thymele Feisthamelii, Bdv., Voy., "Astrolabe," Lep., p. 159, pl. ii., fig. 7, 1832; *Plesioneura curvifascia*, Feld., Wien., Ent. Mon., vi., p. 29, 1862. *P. alysos*, Mre., P.Z.S., 1865, 789; *ib.*, Lep., Ceylon, i., p. 178, pl. lxviii., fig. 3 ♂, 3a ♀, 3b larvæ and pupæ, 1881; *P. albifascia*, *ib.*, P.Z.S., 1878, p. 843. *P. restricta*, *ib.*, *l.c.*, p. 178, 1881. *P. waigensis*, Plötz, Berl., Ent. Zeit., xxvi., p. 263, 1882, pl. cxxl. *P. volux*, Mab., Ann. Soc., Ent. Belg., 1883, p. 56. (?) *P. clavata*, Stand., *Iris*, ii., p. 153, pl. ii., fig. 9, 1899. *N. Feisthamelii*, M. and L., T.R.S., p. 119.

A variable species. All the varieties represent but one species. The Australian form is *restricta*, Mre. I have specimens varying in size from 25 to 46 mm., and the subapical spots number from 2 to 5.

N. waigensis, Plötz, figured by Colonel Swinhoe, T.E.S., pl. iii. fig. 10, is an excellent drawing of our species from Evelyn Scrub, Cairns.

Mackay to Cape York, Queensland; from November to April; also from India, Borneo, New Guinea, etc.

21. BADAMIA, Mre.

Lep., Ceylon, i., p. 156, 1881.

Type *exclamationis*, Fabr.

Club of antennæ elongate, apiculus pointed, bent. Palpi ascending, terminal joint long, slender, slightly swollen near apex, obtusely pointed, porrected. Posterior tibiæ with all spurs. Forewings in ♂ without stigma, 5 parallel and equidistant to 4 and 6. Hindwings with 3 and 4 remote. Five present. Contains only the following species.

99. *B. EXCLAMATIONIS*, Fabr.

Papilio exclamationis, Fabr., Syst. Ent., p. 530, 1775, Mre., Lep., Ceylon, i., p. 157, pl. lxvi., figs. 2a, 2b, 1881. *P. ladon*, Cr., Pap., ex., iii., pl. cclxxxiv., fig. c. ♀, *Ismene thymbron*, Feld., Sitz., A. K. Wiss., Math. Nat., cxli., p. 461, Lep., p. 14, 1860. *B. exclamationis*, M. and L., T.R.S., p. 120.

Sydney to Cape York, Port Darwin; also India, North-West Himalyas, etc.; from October to December.

22. *HASORA*, Mre.

Lep., Ceylon, i., p. 159, 1881; Watson, P.Z.S., 1897, p. 127.

Type *badra*, Mre.

Club of antennæ moderate, elongate, apiculus pointed, bent. Palpi ascending, terminal joint slender, long, slightly swollen near apex, obtusely pointed, porrected. Posterior tibiæ with all spurs. Forewings in male without stigma, 1b distorted downwards near base, 5 parallel to 4 and 6, approximated slightly at base. Hindwings with 3 and 4 closely approximated basally; 5 present. An Indo-Malayan genus of moderate extent.

100. *H. HASLIA*, Swinh.

Ann. Mag., N.H. (7), iii., 107. *H. bilunata*, M. and L. (*nec* Butl.), T.R.S., p. 122.

We formerly called this species *bilunata* and queried *haslia* as a synonym. I am now satisfied that the identification was erroneous; *haslia* is a true *Hasora* and a good species, while *bilunata* is a *Parata*, with the male stigma conspicuous.

Brisbane, Queensland; in November.

101. *H. DOLESCHALLI*, Feld.

Ismene doleschallii, Feld., Sitz., Akad., Wiss., Wien., Math. Cl., p. 460, 1860; Reis., Nov., Lep., iii., pl. lxxii., fig. 16, 1867. *H. Doleschallii*, M. and L., T.R.S., p. 126.

Felder's coloured figures are variable and indifferently delineated. Vein 1b in this species is distorted very little; the same peculiarity is observed in *Albertsi*, Oberth., from New Guinea, which is allied to *Doleschallii*, but is immediately separable by the tuft of hair on upper-side of hindwing of ♂ on vein 1 near anal angle.

Cooktown to Cape York, Queensland; in December; also from New Guinea, etc.

102. *H. DISCOLOR*, Feld.

Goniloba discolor, Feld., Wien., Ent. Mon., p. 405, 1859. *Ismene discolor*, Feld., Reis., Nov., Lep., iii., pl. lxxii., fig. 17, 1867. *H. discolor*, M. and L., p. 123.

Richmond River, New South Wales, to Cooktown, Queensland; in November and December.

23. PARATA, Mre.

Lep., Ceylon, i., p. 160, 1881.

Type *chromus*, Cr.

This genus differs from *Hasora* only by the presence of the stigma in ♂, which is somewhat crescentic. The genus is useful in separating the two groups.

103. P. CHROMUS, Cr.

Papilio chromus, Cr., Pap., ex., pl. cclxxxiv., fig. e, ♂, 1782.

Parata chromus, Mre., Lep., Ceylon, i., p. 161, pl. lxxv., fig. 1, 1881.

Hasora chromus, M. and L., T.R.S., p. 125 (*nec* Cramer). *Hasora* *lucescens*, Lucas, P.R.S., Qld., xv., p. 138, 1899.

♂ ♀, 42-48 mm. Head, thorax, and abdomen dark-fuscous, more or less densely clothed with greenish-golden hairs; face ochreous; palpi and antennæ dark-fuscous; palpi beneath ochreous-fuscous. Legs ochreous-fuscous. Forewings elongate, triangular; costa nearly straight, termen nearly straight, oblique; dark-velvety fuscous, almost blackish in some specimens; basal hairs greenish-golden; markings whitish in ♀; male without markings, except stigma, which is densely black; moderately narrow and curved inwards from base of vein 3 to dorsum before middle; a somewhat triangular spot near base of veins 3 and 4; a similar spot, excised posteriorly, obliquely below, between veins 2 and 3; sometimes a minute subcostal spot between veins 6 and 7, usually absent; cilia dark-fuscous, tips whitish. Hindwings with termen somewhat produced on vein 1; colour, as in forewings; basal hairs greenish-golden; dorsum broadly dull-light fuscous; cilia as in forewings. Under-side of both wings fuscous, washed with bluish-purple; cell of forewings blackish, markings of upper side of ♀ reproduced; dorsum broadly dull-ochreous whitish, limited by vein 1; a small similarly-coloured patch above anal angle. Hindwings with a moderately broad transverse white fascia, about 3 mm. wide; anterior edge moderately straight, posterior edge suffused and gradually mixing with ground-colour, from costa at $\frac{2}{5}$ to vein 1b; a large patch of velvety black on anal angle; an obscure dull-whitish streak along vein 1a to base; a small white patch on dorsum, just above anal angle; cilia as above, blackish on anal angle, and with a fine white basal line between veins 1b and 3.

The insects formerly described by us as *chromus* were small specimens of *haslia*, Swinh., which were known to Australian collectors as *chromus*. It was under these circumstances that Dr. Lucas renamed the present species *lucescens*. The description here given is drawn from Australian specimens, but a nice series sent me by Colonel Swinhoe from various Indian localities vary very little from our form, the

chief difference being the under side, which is not so lilacine.

Brisbane to Port Darwin; from December to March; also India, Borneo, etc.

104. *P. CONTEMPTA*, Herr. Sch.

Ismene contempta, Herr.-Sch., M.S.S., Plötz, S.E.Z., vol. xlv., p. 56, n. 1167, 1886 (*nec contempta*), Herr.-Sch.

♂ ♀, 46-50 mm. Head, thorax, and abdomen brownish-fuscos, more or less clothed with greenish-golden hairs; thorax and abdomen beneath whitish-ochreous; face ochreous; palpi dark-fuscos above, ochreous-whitish beneath. Legs ochreous, fuscous-tinged. Forewings elongate, triangular; costa nearly straight; termen straight, oblique; light-brownish ochreous, darker on median portion of wings; basal pairs greenish-golden; markings in ♀ as in *chromus*, sometimes the spot between veins 2 and 3 is absent or scarcely perceptible above; apical spot well developed; stigma in ♂ as in *chromus*; cilia fuscous, terminal half whitish. Hindwings with termen somewhat produced on vein 1; colour, basal pairs and cilia as in forewings; under-side of both wings ochreous-fuscos; forewings washed with dull-purplish along costa and upper $\frac{2}{3}$ of termen, latter portion limited by an obscure violet-whitish streak, angulated near costa; markings of upper-side of ♀ reproduced; dorsum broadly dull-ochreous whitish, limited by vein 1; a small similarly-coloured patch above anal angle. Hindwings with the purplish better developed; a broad transverse white fascia about 2 to $2\frac{1}{2}$ mm. wide at greatest width, inner edge more irregular than in *chromus*, yet similar, from costa at $\frac{3}{8}$ to vein 1*b*; a large patch of black on dorsum at anal angle; an obscure whitish streak along vein 1*a* to base; a small white patch on dorsum, just above anal angle; cilia as above; blackish at anal angle and with a fine white basal line between veins 1*b* and 3.

This species appears constantly distinct from *chromus* by the different ground-colour of wings above, otherwise it is a close ally of that species; indeed, specimens of *chromus* from New Guinea, identified as such by Colonel Swinhoe, are scarcely perceptibly different, and personally I consider the single specimen submitted to him is *contempta*. The under-side of the abdomen of the present species is ochreous-fuscos; in *chromus*, including the Indian specimens, it is fuscous, with the segmental margins distinctly whitish or white. Whether this peculiarity is of any practical utility in separating the two species remains to be seen. I would not insist on the point, although it is quite constant in all the specimens before me. Plötz's drawing of the ♀ (No. 1167) does

not refer to the present species, and I have not met with a specimen agreeing exactly with the figure, the hindwings of which show a narrow (1 mm.) white, somewhat waved, fascia, edged internally with half its width of brownish-red; the wing between this and base is dull light-chocolate, and between the white fascia and termen lilacine becoming brownish on termen. In Plötz's description he says, "Hindwings, under-side, with narrow white band." The other ♀ figure (called a ♂) delineates our species with certainty, but it cannot be a ♂, as the figure delineates the two lunate spots, which are absent in that sex, of the species under review, as mentioned in my description (*vide supra*). It is curious that neither of the figures shows the apical dot. I therefore consider that the species should stand as *P. contempta*, Herr. Sch., and Plötz's species, when discovered, will require a new name.

Townsville to Port Darwin; from November to March. The type came from Cape York (*vide* Plötz).

105. *P. CONTEMPTA*, Plötz.

S.E.Z., xlv., p. 56, 1884.

I append Plötz's description (translated by Mr. Waterhouse), which may prove useful in identifying the species. I have arranged the terminology in keeping with that adopted in this paper:—

"*Ismene contempta*, Plötz., S.E.Z., xlv., p. 56, 1884, pl. dclxvii. Upper-side blackish-brown, body and base of wings with green hairs, forewing—at least in ♀—with small spots or dots; those in cells 2 and 3 are hyaline or moon-shaped. *Cilia brown*. Under-side brownish-grey, suffused-violet grey. Forewings with narrow vanishing bands before the border, and a similar transverse spot at the last vein; a light mark at hinder margin. Hindwings with a *narrow white* band running from costa to anal angle, almost linear from costa to cell 1c, becoming undecided toward the margin; at vein 1b it turns toward the anal angle, where there is a large black spot."

Nearest ally, *vitta*, Butl., from the Philippines; then *chromus* of Cramer.

23-24 mm. (one wing only), Cape York.

106. *P. HURAMA*, Butl.

Hesperia hurama, Butl., T.E.S., p. 498, 1870. Lep., ex., p. 166, pl. lix., fig. 10, 1874. *Ismene hurama*, Miskin, Ann. Qld. Mus., p. 74, 1891. *Hasora hurama*, M. and L., T.R.S., p. 124.

Type in Coll. Druce, taken at Cape York. The British

Museum has specimens from Champion Bay and Aru Islands (*Butler*).

Mackay to Cooktown; November to February; also from New Guinea (*Meek*).

107. P. LUGUBRIS, Bdv.

Thymele lugubris, Bdv., Voy., "Astrolabe," Lep., p. 160, 1832. *Hasora lugubris*, M. and L., T.R.S., p. 124.

I have but the single ♂ specimen. It is probably only a straggler from the adjacent islands. Cape York.

Note.—*Parata bilunata*, Butl., from Fiji, is very close to *chromus*, Cr. I have one indifferent specimen, and it cannot be satisfactorily separated from our *chromus*; probably a series from the type locality, Fiji, might show a recognizable distinction. I consider it a doubtfully good species. Colonel Swinhoe returned it as *chromus*.
